

















CATALOGUE  
OF  
STARS NEAR THE ECLIPTIC,  
OBSERVED  
AT MARKREE, DURING THE YEARS 1851 & 1852,  
AND WHOSE  
PLACES ARE SUPPOSED TO BE HITHERTO UNPUBLISHED.

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VOL. II.  
CONTAINING 15,298 STARS.

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of the Royal Society.

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## P R E F A C E .

My expectation of completing this Second Volume of the "Ecliptic Stars" before the end of March, was frustrated, in consequence of the pressure of a public duty, combined with the delay arising from the occurrence of so many duplicate observations.

It cannot be permitted to issue from the press, without my acknowledgment of the great zeal and perseverance manifested by Mr. Graham, to whom I am indebted, almost exclusively, for the observations made during the eighteen months from 1st January, 1851, to 1st August, 1852, the results of which are herein recorded.

The number of stars now given amounts to 15,298, of which 35 have been found in M. Argelander's zones, and which are marked A. Z. in the Catalogue; but occurring, as they do, in the last month included in the present volume, it was considered best, for uniformity sake, to retain them. In future it is intended to exclude all stars which may be noted in the observations transmitted to us by that distinguished astronomer.

In addition to the stars whose approximate mean places are now given, there were observed 2,032 known stars, and 972 duplicates of those included in the first volume, = 3,004; thus making the total number of observations made during eighteen months, = 18,302, averaging upwards of 1,000 per month.

The former volume contained 14,888 stars. Of these 61 were subsequently ascertained to have been previously observed, and 7 were added in the errata sheet, leaving the actual number of supposed new stars in that volume, = 14,834. The two volumes, therefore, contain 30,097 new stars, excluding M. Argelander's. The reductions and formation of the Catalogue fell into Mr. C. Robertson's and my hands, as Mr. Graham has been closely employed upon the star-charts, when not engaged in observations.

EDWARD J. COOPER.



# APPROXIMATE MEAN PLACES

FOR JANUARY 1, 1850,

OF

## 1,520 STARS NEAR THE ECLIPTIC,

OBSERVED IN JANUARY, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup> <sup>'</sup> <sup>''</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup> <sup>'</sup> <sup>''</sup>
22	12	2 58 12	+20 5.9	8	9	3 3 13	+21 8.6*
22	12	58 22	20 4.0	22	11	3 33	19 52.1
22	9	58 31	19 53.9	22	11	3 38	19 52.5
8	11	58 51	21 4.0	22	11	3 39	19 51.3
8	10½	59 2	21 16.1	8	9	3 49	21 11
22	11	59 25	19 52.9	8	11	4 26	21 9.0
22	11	59 30	19 56.4	22	7	4 27	20 9.7
22	9	2 59 59	19 54.4	22	11	4 29	20 7.8
8	10½	3 0 18	21 11.1	8	8	4 36	21 4.7
22	10½	0 37	20 7.2	22	9½	5 34	19 57.2
8	9	0 38	21 14.2	8	10½	5 39	21 12.9
8	9½	0 39	21 18.6	22	9	5 47	20 0.9*
8	10	0 48	21 15.2	22	11	5 51	19 48.0
22	11	1 32	19 55.6	8	10½	6 3	21 14.8
8	10	1 39	21 15.6	22	10	6 14	19 52.4
8	11	1 40	21 3.5	8	11	6 18	21 12.9
22	9½	1 47	19 58.1	8	11	6 23	21 7.3
22	9	1 47	19 51.7	8	9½	6 28	21 9.1
22	10½	2 10	19 51.1	8	10½	6 58	21 14.0
8	9½	2 11	21 12.8	8	10½	7 1	21 14.8
22	11	2 24	19 52.3	22	10	7 17	19 57.6
8	11	2 43	21 6.5	22	9½	7 18	19 53.8
22	10½	2 58	19 51.4	22	12	7 37	19 51.9
22	10½	2 59	19 51.6	22	11	7 47	19 57.4
8	9½	3 3 3	+21 14.9	8	10	3 8 7	+21 1.3



## APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
8	10	<sup>h. m. s.</sup> 3 8 9	<sup>°</sup> +21 8.5	3	10	<sup>h. m. s.</sup> 3 14 20	<sup>°</sup> +17 29.0
22	11	8 21	20 2.0	8	11	14 49	21 12.5
8	11	8 35	21 8.1	22	10	15 16	20 2.9
22	12	8 55	20 5.1	3	12	15 19	17 23.1
22	10	8 56	20 3.4	22	9	15 19	19 52.4
8	9½	9 15	21 2.8	3	12	15 30	17 22.9
3	10	9 58	17 28.7	22	11	15 33	20 3.1
8	9½	10 1	21 10.8	3	11½	15 36	17 28.4
22	9	10 4	20 11.7	3	10	16 10	17 27.6
8	9½	10 18	21 18.6	8	10½	16 11	21 18.0
8	10½	10 27	21 6.9	22	11 °	16 47	19 57.3
22	11	10 33	19 52.4	22	9½	16 51	20 6.8
22	10½	10 34	19 48.8	22	9½	16 51	20 9.2
3	11	10 40	17 10.4	22	9½	16 53	20 7.7
3	10½	10 54	17 12.5	3	9	16 57	17 18.0
22	11	11 1	19 51.8	3	10	17 38	17 13.1
22	9	11 17	19 51.8	3	9½	17 47	17 11.7
8	11	11 20	21 8.9	22	11½	18 2	20 4.8
3	10	11 35	17 10.4	8	9½	18 13	21 12.2
3	10	11 48	17 24.5	22	9	18 15	19 55.8
8	11	11 48	21 13.6	8	10½	18 20	21 16.2
8	9½	12 7	21 6.6	3	10	18 46	17 25.9
3	11	12 14	17 24.1	3	11	18 50	17 21.9
22	7	12 22	20 6.0	3	10	19 11	17 36.9
22	9	12 32	19 55.4	3	9½	19 15	17 25.4
22	9½	12 38	20 4.2	8	11	19 52	21 13.8
8	11½	13 9	21 2.4	3	11	19 54	17 28.9
3	10½	13 14	17 14.4	3	10	20 20	17 25.0
3	10½	13 29	17 16.7	22	11	20 31	20 6.9
3	10	13 31	17 14.9	8	10	20 39	21 12.5
3	10	13 41	17 11.3	22	11½	20 39	20 6.8
22	9½	13 43	20 9.2	3	9	20 47	17 16.0
22	10½	13 50	20 2.9	22	10½	20 50	20 7.7
22	10½	13 57	19 56.7	8	10½	20 51	21 11.4
8	11	3 14 15	+21 12.2	3	11	3 20 56	+17 24.8 °

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
3	II	<sup>h. m. s.</sup> 3 21 11	<sup>°</sup> +17 24.2	22	II	<sup>h. m. s.</sup> 3 29 3	<sup>°</sup> +19 58.2
3	10½	21 11	17 25.2	22	11½	29 7	19 55.8
22	11½	21 29	20 4.8	3	10	30 0	17 26.5
22	10½	22 6	19 56.9	8	10	30 9	21 22.5
22	II	22 16	20 8.4	22	8½	30 9	19 53.7
3	10	22 19	17 17.3	22	10	30 24	19 58.0
8	9½	22 39	21 17.1	3	10	30 46	17 10.8
8	10	22 45	21 18.6	3	9	30 52	17 23.8
8	9½	23 15	21 7.6	22	11½	31 0	20 8.7
22	10	23 16	20 3.5	8	9½	31 4	21 12.3
22	10½	23 42	20 2.9	22	10	31 5	20 6.4
22	II	23 44	19 58.5*	3	II	31 30	17 15.4
3	9½	23 55	17 10.3	22	II	31 33	20 7.4
22	9	24 2	20 4.3	3	9½	31 39	17 26.3
3	10	24 13	17 9.2	3	10½	32 38	17 27.2
22	11½	25 12	20 5.1	3	10	32 41	17 27.9
3	II	25 13	17 19.5	8	9½	33 6	21 18.1
22	9½	25 19	20 3.4	8	10½	36 23	21 21.5
3	10½	25 20	17 28.5	8	9	36 24	21 13.8
8	9	25 25	21 13.3	8	10	37 28	20 58.9
22	9½	25 49	20 1.7*	8	10	37 54	21 3.0
22	9½	25 56	20 5.6	8	8½	38 6	21 11.2
3	10	25 58	17 11.6	8	10½	38 33	21 5.7
3	10½	26 7	17 14.5	8	10½	38 47	21 3.7
22	10	26 35	20 3.2	8	10	39 37	21 3.4
8	9	27 6	21 13.1	8	8½	39 42	21 19.9
22	10	27 16	20 6.5	8	10	41 0	21 9.0
22	10	27 30	20 8.8	8	11½	41 1	21 16.9
3	II	27 54	17 23.6	8	9½	41 15	21 15.5
3	10	28 14	17 16.0	8	10	42 52	21 3.9
3	II	28 22	17 15.5	8	10½	42 55	21 12.8
3	10	28 31	17 16.3	8	10½	43 5	21 5.4
3	10	28 32	17 21.0	22	11½	51 28	23 43.1
8	II	28 56	21 21.4	22	II	51 46	23 42.7
• 22	10½	3 28 56	+20 4.0	22	9½	3 52 1	+23 43.4

APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
22	9 $\frac{1}{2}$	3 52 4	+23 41.3*	31	12	4 11 29	+24 27.0
22	10 $\frac{1}{2}$	52 4	23 44.0	31	10	11 49	24 29.8
22	11	53 22	23 42.3	31	9 $\frac{1}{2}$	12 12	24 28.4
22	10 $\frac{1}{2}$	53 56	23 40.2	22	10 $\frac{1}{2}$	12 13	23 48.0
22	10	54 9	23 41.7	22	11	12 20	23 39.2
22	10	54 9	23 30.5	22	10 $\frac{1}{2}$	12 32	23 46.7
22	10 $\frac{1}{2}$	55 9	23 31.4	31	10 $\frac{1}{2}$	13 1	24 40.4
22	11	56 40	23 32.3	22	10	13 2	23 48.8
22	10	57 54	23 43.2	31	10 $\frac{1}{2}$	* 13 39	24 35.0*
22	10	58 3	23 43.2	22	10	13 41	23 48.5
22	11	3 58 34	23 38.1*	22	10	13 44	23 47.0
22	10	4 1 3	23 41.6	31	9 $\frac{1}{2}$	14 0	24 24.6
22	11 $\frac{1}{2}$	1 11	23 44.8	22	11	14 31	23 37.3
22	10	3 8	23 35.3	31	11	14 32	24 27.6
22	10	3 17	23 39.2	22	10	14 34	23 47.4
22	12	3 51	23 38.1	22	10	14 34	23 48.1
22	10	4 37	23 34.9	22	10 $\frac{1}{2}$	15 1	23 38.0
22	12	4 42	23 47.2	31	11	15 9	24 44.5
22	12	4 53	23 48.1	31	11 $\frac{1}{2}$	15 32	24 43.2
22	11	5 18	23 29.8	31	12	16 5	24 43.7
22	11 $\frac{1}{2}$	6 2	23 43.4	22	10	16 36	23 46.9
22	11	6 31	23 46.2	31	9 $\frac{1}{2}$	16 46	24 42.2
22	10	6 32	23 43.5	22	10	16 54	23 40.3
22	9 $\frac{1}{2}$	6 41	23 48.4	31	12	16 56	24 41.5
22	11	7 29	23 32.3	31	12	17 4	24 42.5
22	11	7 50	23 31.0	31	12	17 16	24 43.6
22	12	8 37	23 46.1	22	11	17 18	23 36.1
22	10	8 45	23 48.8	22	11 $\frac{1}{2}$	17 27	23 45.6
22	10	9 3	23 34.4	22	10	17 31	23 43.0
22	9 $\frac{1}{2}$	9 41	23 34.7	22	10	17 41	23 46.7
22	10 $\frac{1}{2}$	10 5	23 36.2	31	11 $\frac{1}{2}$	17 53	24 45.0
22	9 $\frac{1}{2}$	10 13	23 30.0	31	11	18 6	24 44.0
22	11	10 20	23 35.1	22	11	18 30	23 48.3
22	10	11 1	23 30.5	22	10	18 56	23 46.2
22	10 $\frac{1}{2}$	4 11 19	+23 30.1	31	10	4 19 16	+24 40.1 <sup>o</sup>

## OBSERVED IN JANUARY, 1851.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
22	10	4 19 24	+23 48.6	8	10 $\frac{1}{2}$	4 26 24	+23 56.1
31	10	19 29	24 29.4	24	11	26 31	24 12.8
22	10 $\frac{1}{2}$	19 50	23 50.4	24	10 $\frac{1}{2}$	26 32	24 27.2
8	10	20 5	24 1.5	22	10 $\frac{1}{2}$	26 54	23 33.3
8	10	20 17	23 59.1	22	10 $\frac{1}{2}$	27 4	23 33.5
31	11	20 35	24 31.0	31	10 $\frac{1}{2}$	27 24	24 42.9
31	11	20 44	24 32.9	22	9	27 27	23 38.5
22	12	20 58	23 36.9	31	11	27 31	24 32.3
8	10	21 26	24 1.8	31	10 $\frac{1}{2}$	27 31	24 36.5
31	12	21 41	24 43.4	8	9 $\frac{1}{2}$	27 39	24 7.4
31	11 $\frac{1}{2}$	21 44	24 45.1	24	10	27 41	24 17.0
22	10	21 56	23 39.2	24	11 $\frac{1}{2}$	27 44	24 13.2
22	11	22 45	23 37.5	8	9	27 45	23 54.2
31	10	23 16	24 38.0*	24	12	27 48	24 15.7
31	10 $\frac{1}{2}$	23 19	24 43.4	22	11 $\frac{1}{2}$	27 50	23 32.6
31	12	23 26	24 38.2:	31	10 $\frac{1}{2}$	28 9	24 34.6
31	10	23 44	24 40.8	8	10	28 17	24 9.8
22	10	24 3	23 50.5	24	10	28 28	24 19.9*
8	10	24 31	24 1.9*	8	10 $\frac{1}{2}$	28 39	24 4.1
31	10	24 37	24 27.6	8	10	28 48	24 8.6
22	11	24 48	23 31.5	8	10	28 50	24 6.7
24	12	24 53	24 28.7	22	11	28 52	23 30.7
22	10	25 4	23 38.5	24	11	28 52	24 24.8
22	11	25 4	23 31.6	24 31	11	29 12	24 26.1
31	9	25 12	24 39.6	31	11	29 22	24 31.8
24	11 $\frac{1}{2}$	25 24	24 9.7	22	10 $\frac{1}{2}$	29 23	23 35.4
24	10 $\frac{1}{2}$	25 32	24 15.2	31	10 $\frac{1}{2}$	29 31	24 35.5*
31	9	25 33	24 42.0	22	11	29 35	23 35.7
31	11 $\frac{1}{2}$	25 43	24 37.9	22	11	29 45	23 30.7
24	11 $\frac{1}{2}$	25 51	24 9.8	31	12	29 48	24 35.7
31	11	26 6	24 38.0	22	11	29 50	23 35.5
31	10	26 8	24 37.7	8	10	29 54	23 59.6
31	10 $\frac{1}{2}$	26 15	24 30.2	24	11 $\frac{1}{2}$	30 30	24 27.2
8	10 $\frac{1}{2}$	26 16	23 56.6	8	10	30 36	23 53.3
8	10 $\frac{1}{2}$	4 26 17	+23 55.2	24	10 $\frac{1}{2}$	4 30 37	+24 26.1

# APPROXIMATE MEAN PLACES OF STARS,

sys. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup>
24	10½	4 30 47	+24 27.4	31	12	4 36 0	+24 29.6
22	10	31 3	23 44.1	22	10½	36 7	23 44.5
22	11	31 6	23 46.4	22	10½	36 15	23 42.3
31	8	31 13	24 45.3	8	10	36 17	24 3.7†
31	11	31 15	24 32.1	24	10	36 27	24 10.3
8 24	9	31 27	24 8.6	8	10	36 32	24 1.9
31	11½	31 27	24 36.2	22	10½	36 40	23 47.9
24	12	31 43	24 14.7	24	11½	36 46	24 7.7
31	11	31 58	24 33.3	22	9	36 55	23 38.2
22	10½	32 6	23 32.2	31	11	37 18	24 45.4
24	11	32 18	24 21.7	8	10	37 25	23 53.3
8	9½	32 22	23 52.4	24	11½	37 46	24 16.9
8	10	32 24	24 1.6	22	11	37 53	23 42.3
31	9	32 50	24 31.6	22	11	38 4	23 44.8
8	10	33 2	23 53.3	24	11½	38 8	24 17.3
8	10	33 10	23 55.1	24	12	38 9	24 25.7‡
22	10½	33 21	23 31.5	31	10	38 20	24 28.3
22	10	33 24	23 34.8	8	8½	38 22	24 4.8
31	10	33 25	24 34.3	12	11	38 31	23 42.6
24	9	33 34	24 23.8	22	11	38 37	23 45.3
22	9	33 51	23 33.6	31	10½	38 47	24 27.7
31	11½	33 52	24 42.1	8	10½	38 54	23 57.5
31	10	34 8	24 38.5	8	11	39 3	24 5.8
8	9	34 18	23 54.9	22	11	39 33	23 34.0
24	10	34 39	24 21.8	22	12	39 38	23 34.5
22	11	34 54	23 33.8	24	11	39 38	24 19.6
24	11½	34 59	24 22.2	31	9½	39 39	24 34.2
24	12	35 2	24 11.0	24	12	39 42	24 13.6
22	10½	35 3	23 31.3	8	10	40 7	23 53.6
24	11	35 3	24 16.2	31	10	40 42	24 33.3
8	10	35 8	23 56.5	22	10	40 44	23 35.5
8	10	35 8	23 48.8	24	11	40 54	24 12.6
22	10	35 15	23 38.3*	31	11	40 54	24 30.8
31	10	35 29	24 28.0	31	12	41 15	24 41.5
31	10	4 35 37	+24 28.4	24	11½	4 41 23	+24 14.2

† (4).

† S. of double.

‡ S. of double. °

Days.Obs.	Mag.	$\alpha$ .			$\delta$ .	Days.Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.						h. m. s.			
24	10 $\frac{1}{2}$	4 41 30	+24	12.1	25	10 $\frac{1}{2}$	4 46 25	+24	52.5		
31	10 $\frac{1}{2}$	41 31	24	39.1	8	11	46 29	23	56.3		
8	8 $\frac{1}{2}$	41 55	23	51.6	24	10 $\frac{1}{2}$	46 31	24	20.1		
22	11 $\frac{1}{2}$	42 0	23	29.9	31	9	46 39	24	36.6		
31	11	42 5	24	44.3	8	11	46 41	23	53.9		
8	11	42 14	24	2.8	31	11	46 46	24	28.7		
24	11 $\frac{1}{2}$	42 31	24	23.7*	25	10	46 56	25	0.7		
31	9 $\frac{1}{2}$	42 33	24	43.1	31	11 $\frac{1}{2}$	46 57	24	29.7		
24	10	42 37	24	23.9	8	10	47 3	23	53.9		
31	10	42 38	24	45.9	25	9	47 4	25	6.0		
24	9 $\frac{1}{2}$	42 49	24	10.0	8	9	47 5	24	0.0		
31	10	42 55	24	41.5	25	11	47 14	24	58.4		
24	10	42 57	24	14.9	8	10	47 40	23	54.8		
31	10	43 12	24	42.3	31	10	47 44	24	28.8		
31	11	43 35	24	30.7	8	10	47 51	23	55.1		
24	11 $\frac{1}{2}$	43 47	24	8.6	24	11	48 0	24	14.5		
24	12	43 54	24	11.0	24	12	48 2	24	15.2		
8	11	44 1	24	4.5	8	9	48 4	24	5.2		
8	10 $\frac{1}{2}$	44 2	23	59.9	31	11	48 19	24	30.5		
31	9	44 5	24	43.9	8 24	9	48 20	24	8.7		
24	9 $\frac{1}{2}$	44 8	24	27.5	25	9 $\frac{1}{2}$	48 49	24	57.9		
31	10	44 37	24	35.4	25	11	48 52	25	2.0		
24	10	44 42	24	23.9	25	10 $\frac{1}{2}$	48 52	24	51.0		
31	9	44 51	24	34.6	25	11	49 5	25	1.5		
8	10 $\frac{1}{2}$	44 56	23	59.3	8	10	49 8	23	51.8		
24	9 $\frac{1}{2}$	45 2	24	25.9	24	10 $\frac{1}{2}$	49 32	24	21.7		
8	10	45 10	23	57.1	2 31	10	49 36	24	38.8		
31	11	45 10	24	34.9	24	11	49 37	24	20.9		
24	10 $\frac{1}{2}$	45 22	24	21.4	24	10 $\frac{1}{2}$	49 37	24	23.2		
31	11	45 36	24	37.8	25	10	49 41	25	2.4		
24	10	45 37	24	27.9	8	11	49 58	23	53.7		
8	11	45 46	24	6.1	31	10	50 2	24	28.8		
31	12	46 0	24	42.7	2 31	10 $\frac{1}{2}$	50 7	24	39.7		
24	10 $\frac{1}{2}$	46 11	24	20.6	8	10 $\frac{1}{2}$	50 10	23	57.7		
24	9 $\frac{1}{2}$	4 46 14	+24	13.2	2 31	10 $\frac{1}{2}$	4 50 15	+24	38.5		

Days.Obs.	Mag.	$\alpha$ .	$\delta$ .	Days.Obs.	Mag.	$\alpha$ .	$\delta$ .
8	10 $\frac{1}{2}$	<sup>h. m. s.</sup> 4 50 19	<sup>°</sup> +23 55.6	2	10	<sup>h. m. s.</sup> 4 53 19	<sup>°</sup> +24 48.0
25	11	50 25	24 52.3	31	11 $\frac{1}{2}$	53 22	24 30.8:
8	11	50 33	23 56.0	24	9 $\frac{1}{2}$	53 32	24 25.0
8	9	50 49	23 57.7	24	9 $\frac{1}{2}$	53 39	24 27.0
24	10	50 51	24 13.8	31	10	53 49	24 31.0
24	11 $\frac{1}{2}$	50 53	24 12.0	2 31	10	53 51	24 32.7
24	11 $\frac{1}{2}$	50 59	24 9.3	2	9	53 53	24 37.4†
31	10	51 2	24 31.3	25	10 $\frac{1}{2}$	54 6	24 49.0
25	11 $\frac{1}{2}$	51 5	24 51.2	31	10	54 9	24 33.9
24	10 $\frac{1}{2}$	51 6	24 15.7	8	10	54 17	24 2.4†
25	11 $\frac{1}{2}$	51 15	24 50.4	31	9 $\frac{1}{2}$	54 19	24 31.1
2	10	51 34	24 46.8	24	12 $\frac{1}{2}$	54 21	24 26.7
2	10	51 36	24 45.9	8	10	54 27	24 6.3
24	11 $\frac{1}{2}$	51 44	24 12.3	8	10	54 31	23 53.7
8	10 $\frac{1}{2}$	51 48	24 4.9	24	10 $\frac{1}{2}$	54 32	24 27.4
31	10	52 3	24 39.8	25	12	54 42	24 53.2
24	11	52 4	24 15.3	15	11	54 50	24 47.4
31	10	52 8	24 34.0	2 31	10	54 52	24 42.4
2 31	11	52 9	24 42.7	25	10	54 59	25 4.4
25	10 $\frac{1}{2}$	52 9	24 53.2	2 31	10	55 7	24 45.1
8	10 $\frac{1}{2}$	52 18	24 5.1	25	11 $\frac{1}{2}$	55 30	24 53.0
24	12	52 25	24 17.0	24	10	55 32	24 21.5
8	9 $\frac{1}{2}$	52 29	24 7.1	8	10	55 39	23 54.2
24	10 $\frac{1}{2}$	52 30	24 15.7	24	10	55 40	24 10.9
2	11	52 31	24 47.7	8	9 $\frac{1}{2}$	55 41	23 53.1
24	10 $\frac{1}{2}$	52 40	24 11.4	24	10	55 42	24 22.3
8	10	52 42	23 54.5	24	10 $\frac{1}{2}$	55 48	24 14.9
8	10 $\frac{1}{2}$	52 50	23 55.2	2 31	10	55 57	24 31.5
25	11 $\frac{1}{2}$	52 50	24 53.2	25	10 $\frac{1}{2}$	56 0	25 3.7
25	11	52 53	24 51.3	31	11	56 10	24 30.1
25	10 $\frac{1}{2}$	52 54	25 1.2*	8	10	56 15	23 52.1
31	11	53 10	24 28.7	2 31	9	56 16	24 33.0
2	9 $\frac{1}{2}$	53 11	24 38.3	25	11	56 25	24 50.2
24	9	53 16	24 15.9	2	9	56 26	24 39.2
25	11	4 53 16	+24 50.4	24	9 $\frac{1}{2}$	4 56 26	+24 14.7

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		h. m. s.					h. m. s.		
31	11½	4 56 32	+24 32.0	2 31	9½	4 59 46	+24 41.1		
8	10½	56 35	23 52.8	8	10	59 51	23 56.6		
25	11	56 44	24 50.7	8	10½	59 53	24 9.1		
2 31	12	56 49	24 33.3	8	10	4 59 54	24 8.8		
24	11½	56 50	24 26.1	31	10	5 0 1	24 43.0		
24	11½	56 54	24 23.1	25	10	0 3	25 5.5		
24	10½	56 56	24 11.3	31	11	0 13	24 42.6		
25	9	57 0	24 52.9	31	11	0 24	24 42.0		
8	9½	57 3	23 52.3	8 24	9½	0 25	24 8.1		
24	10	57 7	24 11.3	24	10½	0 25	24 24.9		
8	11	57 35	23 55.3	25	11½	0 29	25 1.4		
31	10	57 37	24 29.9	25	12	0 29	25 7.4		
25	11½	57 38	25 4.2	8 24	9½	0 31	24 7.0		
25	10½	57 44	25 4.9	25	12	0 31	25 5.5		
24	10	57 54	24 13.3	24	11½	0 34	24 25.0		
8	10	57 55	24 7.7	25	10½	0 49	25 5.6		
2 31	9½	58 3	24 42.1*	8	10	1 19	23 51.6		
2 31	9½	58 7	24 32.1	8	10	1 23	23 58.0		
24	11	58 15	24 11.2	2 31	10½	1 27	24 33.9		
25	10	58 15	25 5.8	24	11½	1 27	24 9.2		
31	11½	58 24	24 42.5	2 31	11	1 33	24 32.9		
8	10	58 25	23 59.6	25	12	1 35	24 51.6		
8	9	58 40	23 53.6	31	9	1 39	24 40.6		
24	11	58 46	24 10.6	24	9	1 43	24 12.6		
2	11½	58 58	24 36.0	31	11	1 46	24 40.4		
2	11½	58 58	24 35.4	2	11	2 4	24 36.8		
25	10½	59 5	25 5.3	24	11½	2 7	24 10.8		
25	10½	59 5	24 51.5	24	9	2 10	24 13.0		
24	10	59 10	24 14.4	24	9½	2 12	24 15.3		
25	10	59 11	25 5.4	8	9½	2 16	24 5.6		
2	11	59 13	24 39.0	8	11	2 17	24 3.7		
2 31	10	59 15	24 42.0	25	9½	2 21	24 49.7		
31	10½	59 21	24 43.3	25	9½	2 27	25 0.9†		
25	9½	59 22	24 52.5	8	11½	2 39	24 6.3		
24	10½	4 59 29	+24 21 0	2	11	5 2 41	+24 33.8		



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
31	10	5 2 50	+24 43.0	24	12	5 7 52	+24 9.3
8	10½	2 51	24 6.4	24	12	7 54	24 13.6
24	12	2 59	24 27.4	31	9½	7 54	24 30.4
24	12	3 9	24 26.2	24	11	7 56	24 14.8
25	9½	3 10	25 7.7	31	9	8 7	24 34.2
24	12	3 14	24 26.8	2	11	8 10	24 44.9
25	9½	3 21	25 0.9	31	10½	8 22	24 35.2§
2	11	3 37	24 32.4	24	10½	8 29	24 14.0
2	11	3 38	24 36.9	24	12	8 33	24 15.4
2	11	3 47	24 38.5	25	10	8 35	24 56.3
2	11	3 48	24 46.2	25	9 <sup>e</sup>	8 45	24 53.8
25	11	3 58	24 52.1	25	10	8 47	25 1.6
31	11	4 19	24 39.9	25	11	9 5	24 58.0
25	9	4 27	25 5.4	25	10	9 7	24 58.5
25	9½	4 28	24 57.3*	24 31	9½	9 10	24 29.4
31	11½	4 34	24 41.5	31	10½	9 23	24 30.5
24	11	4 37	24 28.1	31	10	9 48	24 34.1
2	11	4 43	24 46.4	31	10	9 51	24 35.9
24	9½	4 49	24 26.0	24	11	10 0	24 12.5
24	11	5 19	24 10.3	24	10	10 2	24 17.6
2	11	5 35	24 43.0	24	11	10 3	24 11.0
31	10½	5 45	24 32.1	24	11½	10 14	24 17.1
31	10½	5 45	24 29.5	2 31	9	10 17	24 29.2
31	10½	5 47	24 33.1	24	11½	10 28	24 19.0
24	9½	5 49	24 20.7*	25	10½	10 51	24 54.9
2	9½	6 4	24 47.2†	24	9	10 58	24 17.7
24	9	6 10	24 20.4†	31	11	11 25	24 39.3
31	10	6 12	24 34.4	31	10½	11 34	24 33.1
2	11½	6 17	24 49.1	31	11	11 46	24 38.4
24	10	6 30	24 19.9†	31	11	11 49	24 27.6
31	11	6 41	24 29.9	25	11½	11 53	24 54.0
31	10	7 16	24 34.1	25	11½	12 9	24 57.7
2	11½	7 28	24 44.5	24	10	12 10	24 27.1
25	11	7 44	24 47.1	24	9½	12 16	24 20.0
25	9	5 7 46	+24 56.8	25	11½	5 12 23	+24 55.9

¹ (4).

† M. C.

‡ (4).

§ N. of double.

|| (4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
24 31	II	5 12 50	+24 27.5	25	9½	5 18 12	+25 2.4
24	9½	13 0	24 22.9	25	II	18 26	24 54.8:
31	12	13 3	24 32.6	24	9	18 33	24 12.0
31	II	13 15	24 29.9	25	II½	18 42	24 53.3
25	II	13 27	24 55.7	24	9½	18 50	24 11.0
25	12	13 40	24 52.5	31	9½	19 25	24 30.0
25	12	13 47	24 56.0	31	10½	19 35	24 30.5
24	II½	14 11	24 14.8	24	10	19 51	24 22.0
31	II	14 11	24 45.8	31	9½	19 59	24 30.9
25	II½	14 16	24 57.4	24	12	20 1	24 22.4
31	12	14 18	24 42.3	25	II	20 13	25 1.1
24	9½	14 34	24 18.3*	31	II½	20 16	24 44.1
24	II½	14 42	24 23.9	24	9½	20 34	24 17.8*
24	10½	14 45	24 24.8	31	II	20 38	24 28.0
25	9½	15 10	25 5.5	31	10	20 58	24 30.0
31	II½	15 19	24 42.1	24	10½	21 3	24 13.0
31	II½	15 28	24 41.7	25	10½	21 4	25 0.9
24	10	15 37	24 7.9	25	10	21 4	25 3.9
25	II	15 42	25 7.0	3	10½	21 21	22 37.6
25	II½	15 48	25 1.8	31	8½	21 24	24 41.7
25	II½	16 0	25 6.4	25	10½	21 28	24 51.0
24	9½	16 12	24 12.5	25	10½	21 29	24 54.1
31	10½	16 16	24 29.6	3	9½	21 33	22 48.5
31	II	16 23	24 29.5	24	10½	21 35	24 18.4
24	10	16 40	24 9.6	31	II½	21 43	24 31.0
25	9	16 48	25 6.8	3	II	21 44	22 48.6
25	II	16 53	25 4.4	24	II	21 55	24 27.8
24	9½	16 58	24 17.5	31	10	21 57	24 30.3
24	12	17 6	24 10.8	2	II½	22 14	24 33.1
31	II	17 12	24 31.4	25	II	22 28	24 51.3
31	10½	17 14	24 29.1	3	10	22 32	22 37.4
31	10½	17 27	24 28.1	31	10	22 34	24 32.9
24	II	17 54	24 27.4	25	II	22 43	24 56.9
24 31	II	18 3	24 27.7	25	9½	22 47	24 52.6
24	10	5 18 5	+24 25.5	3	10	5 22 56	+22 37.7

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup>
24	II	5 22 59	+24 14.5	25	IO	5 26 1	+25 4.3
24	IO $\frac{1}{2}$	23 5	24 15.3	3	II	26 3	22 38.1
3I	IO	23 5	24 34.2	25	9	26 10	24 55.0
3I	IO	23 9	24 41.7	3I	II	26 10	24 29.1
3	9 $\frac{1}{2}$	23 13	22 42.8*	3	12	26 25	22 37.8
3I	9 $\frac{1}{2}$	23 17	24 43.1	3	II	26 34	22 46.8
25	II $\frac{1}{2}$	23 19	24 53.6	2	9	26 37	24 49.3
24	12	23 22	24 16.8	25	9 $\frac{1}{2}$	26 39	24 57.7
24	12	23 23	24 13.2	2	II	26 44	24 36.6
2	II	23 34	24 44.9	2	II $\frac{1}{2}$	26 52	24 48.5
2	IO $\frac{1}{2}$	23 41	24 36.0	24	9 $\frac{1}{2}$ <sup>e</sup>	26 53	24 25.2
3	IO	23 50	22 49.8	24	9 $\frac{1}{2}$	26 58	24 26.2
25	9 $\frac{1}{2}$	24 5	25 4.7	25	IO	27 11	24 53.0
2	9 $\frac{1}{2}$	24 6	24 37.4	3I	IO	27 12	24 41.9
2	IO	24 21	24 35.5	24	IO	27 20	24 24.1
25	IO	24 32	25 4.2	2 3I	II	27 25	24 40.7
25	II	24 34	24 51.0	3	9	27 25	22 47.8
2 3I	9 $\frac{1}{2}$	24 35	24 33.4	3I	IO	27 30	24 38.1
3I	IO	24 35	24 30.0	2 3I	II	27 36	24 39.7
25	IO	24 36	24 55.2:	2 3I	IO	27 40	24 40.8
24	II $\frac{1}{2}$	24 40	24 12.3	24	9	29 47	24 28.1
3	9 $\frac{1}{2}$	24 43	22 38.0	3	IO $\frac{1}{2}$	27 49	22 44.0
3I	II	24 47	24 29.7	24	IO $\frac{1}{2}$	27 54	24 24.0
3	IO $\frac{1}{2}$	25 9	22 44.9	25	9	28 2	24 52.5
2	9 $\frac{1}{2}$	25 11	24 48.9	3I	9 $\frac{1}{2}$	28 4	24 39.0
24	9 $\frac{1}{2}$	25 14	24 14.9	3	IO $\frac{1}{2}$	28 8	22 37.8
3	9 $\frac{1}{2}$	25 16	22 45.5	3	II	28 12	22 40.0
3I	IO $\frac{1}{2}$	25 24	24 38.1	25	II	28 13	24 52.1
2 3I	IO	25 32	24 44.4	25	9 $\frac{1}{2}$	28 16	24 59.4
25	9 $\frac{1}{2}$	25 40	25 2.1	24	II	28 34	24 13.8†
24	9 $\frac{1}{2}$	25 45	24 21.2	3	II	28 36	22 39.3
24	9	25 51	24 22.7	25	II	28 46	24 50.5
3	IO	25 53	22 39.8	24	9 $\frac{1}{2}$	28 57	24 13.0
25	12	25 53	25 2.6	24	II	29 3	24 14.6
3I	IO	5 25 53	+24 30.6	25	9 $\frac{1}{2}$	5 29 15	+24 53.9

\* (4).

† N. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>+<sup>o</sup></small>			<small>h. m. s.</small>	<small>+<sup>o</sup></small>
25	9½	5 29 19	+24 54.5*	2	11½	5 33 16	+24 47.9
2	11	29 37	24 48.9	2	12½	33 27	24 48.3
24	9½	29 37	24 11.9	2	12	33 35	24 47.0
2	11	29 39	24 47.1	24	10	33 40	24 9.7
31	11½	29 40	24 41.2†	24	12	33 44	24 13.4
2 31	10	29 41	24 44.4	24	11½	33 58	24 13.2
2	11	29 45	24 48.4	3	9½	34 2	22 50.4
3	12	29 45	22 47.5	25	9½	34 4	25 6.3
25	9½	29 46	24 55.1	3	11½	34 8	22 40.5
3	12	29 48	22 50.2	25	9½	34 9	25 6.5
25	10	29 50	24 53.9	2	11	34 20	24 37.8¶
31	11	29 51	24 44.5	25	9½	34 35	25 2.4
24	9½	29 52	24 17.2	3	10	34 42	22 35.5
24	10	30 0	24 8.1	25	9	34 44	25 7.2
3	10	30 0	22 34.6	2	9	34 48	24 36.9
24	10	30 20	24 8.1	3	10	34 50	22 38.3
3	9½	30 26	22 33.8	2	9	34 54	24 34.7
2	10	30 37	24 31.9	3	10	35 4	22 47.1**
25	11	30 50	25 3.5	25	10	35 15	25 5.0
3	10	30 53	22 35.2	24	11	35 18	24 15.9
2	10	30 58	24 28.3	3	9½	35 19	22 51.0
25	11½	31 1	24 52.9	24	10½	35 34	24 14.6
2	10½	31 25	24 35.9	2	10	36 12	24 38.0
24	11½	31 30	24 12.7	2	8½	36 18	24 43.8
2	10½	31 38	24 47.5	2	11	36 21	24 33.1
3	—	31 46	22 41.0	3	11	36 21	22 48.8
2	10	31 54	24 47.0	3	10½	36 25	22 44.6
3	9½	32 5	22 34.6	2	9	36 30	24 37.8
24	11	32 7	24 16.9	3	11	36 32	22 49.8
24	10½	32 7	24 10.8	25	12	36 32	24 54.7
3	9	32 8	22 39.2†	3	10	36 34	22 47.4
2	12	32 26	24 45.7§	25	10½	36 41	24 54.2
2 25	11	32 37	24 50.1	25	10½	36 47	24 55.1
25	10	32 42	24 52.9	2	11	37 20	24 31.9
25	9½	5 33 5	+25 1.8	24	11	5 37 37	+24 27.3

\* Red.

† N. of double.

‡ (4).

§ S. f. of double.

| S. p. of double.

¶ Double.

\*\* f. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
24	II	5 37 39	+24 27.2	3	IO	5 42 49	+22 34.3
25	II $\frac{1}{2}$	37 53	25 2.6	2	IO $\frac{1}{2}$	42 58	24 37.0
3	IO $\frac{1}{2}$	38 1	22 48.0	3	IO $\frac{1}{2}$	43 33	22 37.6
25	II	38 7	25 2.8	25	9 $\frac{1}{2}$	43 40	24 55.5
25	9	38 11	24 52.0	3	II	43 45	22 36.8
2	12	38 17	24 35.8	2	IO $\frac{1}{2}$	43 49	24 32.1
25	II $\frac{1}{2}$	38 22	25 2.0	2	IO	43 49	24 39.9
25	9 $\frac{1}{2}$	28 30	24 54.0	3	II	43 50	22 37.5
3	9	38 39	22 44.8	2	IO	43 52	24 33.4
25	9 $\frac{1}{2}$	38 39	24 54.4	25	9 $\frac{1}{2}$	43 54	25 56.1
3	9	38 44	22 51.6	3	IO <sup>e</sup>	43 56	22 36.2
3	II	39 3	22 33.1	3	II $\frac{1}{2}$	44 0	22 36.8
2	IO	39 19	24 54.4	25	II $\frac{1}{2}$	44 2	24 56.8
25	II	39 53	25 3.8	25	II $\frac{1}{2}$	44 28	24 53.9
25	II	39 55	25 4.0	2	II $\frac{1}{2}$	44 29	24 34.9
25	IO	39 57	25 0.9	25	12	44 33	24 56.8
3	12	40 3	22 39.2	3	IO	45 10	22 46.3
3	II	40 6	22 38.6	3	12	45 15	22 47.3
2	IO	40 15	24 46.8	3	9	45 23	22 48.1
25	II	40 15	25 3.1	2	IO	45 26	24 37.5
2	II	40 21	24 46.6	25	9	45 30	25 5.8
2	12	40 34	24 46.5	25	9	45 31	24 50.9
25	9 $\frac{1}{2}$	40 48	25 0.1	2	IO $\frac{1}{2}$	45 45	24 32.9
25	II	41 30	25 1.3	25	9 $\frac{1}{2}$	45 48	24 52.9
2	IO $\frac{1}{2}$	41 31	24 45.4	3	IO	45 58	22 33.9
2	II $\frac{1}{2}$	41 32	24 44.7	3	9 $\frac{1}{2}$	46 12	22 35.2
25	II	41 36	25 2.0	2	IO	46 34	24 45.0
25	IO $\frac{1}{2}$	41 48	25 0.6	3	IO $\frac{1}{2}$	47 3	22 39.3
2	IO $\frac{1}{2}$	41 59	24 35.7	25	IO $\frac{1}{2}$	47 16	25 4.1
3	IO	42 0	22 34.9	3	12	47 22	22 45.4
25	IO $\frac{1}{2}$	42 0	25 0.1	3	II	47 25	22 46.0
25	IO $\frac{1}{2}$	42 0	25 2.1	2	IO $\frac{1}{2}$	47 32	24 33.5
3	IO	42 7	22 32.5	25	II	47 32	25 4.8
3	IO $\frac{1}{2}$	42 26	22 38.6	25	9 $\frac{1}{2}$	48 5	24 58.5
25	9 $\frac{1}{2}$	5 42 26	+25 1.7	3	IO	5 48 51	+22 47.8

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
3	10	<sup>h. m. s.</sup> 5 48 52	+22 50.4	31	10	<sup>h. m. s.</sup> 5 54 21	+25 17.4
3	9	48 52	22 51.0	3	10½	54 30	22 34.5†
2	11½	48 55	24 35.1	3	10½	54 37	22 33.9
25	11½	49 44	24 54.8	25	9½	54 38	25 6.3
2	12	49 50	24 47.5	31	9½	54 45	25 16.3
25	11½	49 57	24 56.8	31	10	54 51	25 17.5
25	9½	50 9	24 56.9	3	11	55 3	22 32.3
3	11½	50 15	22 45.3	31	9½	55 9	25 10.8
3	10	50 16	22 44.8	31	10	55 17	25 14.7
3	10	50 23	22 33.7	3	11½	55 28	22 34.3
3	10½	50 25	22 33.7	25	9½	55 46	24 53.1
25	11	50 46	24 50.9	3	12	56 5	22 48.9
25	11	51 8	24 50.0	25	10½	56 21	24 55.1
31	10½	51 21	25 10.0	31	9½	56 21	25 11.1
25	10	51 41	25 7.8	25	10½	56 28	24 51.9
3	11	51 48	22 39.4*	31	11	56 35	25 16.7
25	9½	51 52	25 4.3	3	10	56 39	22 38.2
25	10½	51 52	25 7.9	25	9½	56 48	24 58.7
31	10½	51 52	25 16.7	3	10	56 52	22 39.7
3	10	51 57	22 39.2*	31	11	56 54	25 12.2
3	11½	51 59	22 37.6	3	10	56 56	22 49.1
31	10½	52 22	25 11.4	25	10½	57 47	25 2.9
31	10	52 26	25 18.6	31	10	57 53	25 12.0
25	9½	52 51	24 50.2	31	10½	58 1	25 16.7
31	9½	52 53	25 11.8	25	9½	58 3	25 6.1
3	9	53 6	22 32.4	25	9½	58 15	24 53.8
25	11	53 6	24 53.3	31	10	58 17	25 13.3
31	11	53 6	25 11.4	25	9½	58 20	24 52.9
3	10	53 27	22 37.8	31	9½	58 27	25 12.8
3	10	53 31	22 34.9	3	11	58 51	22 37.1
25	11	53 42	24 54.8	31	9½	58 56	25 11.4
31	10½	53 47	25 28.7	25	9	58 57	24 55.1
25	9½	53 48	24 50.8	25	10	58 57	24 50.2
31	9½	54 7	25 28.9	3	12	59 4	22 36.1
3	11	5 54 17	+22 33.4	3	11½	5 59 8	+22 33.3

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
31	9	<sup>h. m. s.</sup> 5 59 13	<sup>°</sup> +25 12.0	3	11	<sup>h. m. s.</sup> 6 3 50	<sup>°</sup> +22 35.1
31	9½	59 41	25 28.2	25	9½	3 54	25 5.0
25	10	59 48	24 51.8	3	10	3 58	22 49.3
25	11	59 50	24 50.7	25	10	4 5	25 6.4
31	10	59 52	25 23.4	31	10	4 10	25 13.7
25	9½	5 59 53	25 0.2	31	11	4 19	25 14.3
3	9	6 0 5	22 34.8	31	9½	4 22	25 13.8
31	10½	0 6	25 24.1	3	10	4 27	22 51.2
3	12	0 11	22 36.9	25	10½	4 31	24 51.1
3	9	0 23	22 37.7	3	12	4 39	22 49.9
25	9½	0 42	24 56.8	25	11½	4 44	24 51.9
25	9½	0 46	24 55.8	25	11	4 51	24 53.7
3	9	0 48	22 40.3	31	9½	4 53	25 13.9
31	10	0 55	25 23.6	3	8½	5 9	22 50.1
25	9½	0 57	25 4.0	31	9	5 9	25 25.6
3	11	0 59	22 35.0	31	9½	5 21	25 26.0
31	10	1 0	25 25.1	31	11½	5 29	25 27.5
25	9½	1 1	25 2.8	25	10½	5 41	24 54.3
31	10	1 19	25 22.8	25	10	5 51	24 54.5
31	11	1 22	25 23.4	25	9	5 52	25 7.2
25	9½	1 25	24 57.7	25	10	6 3	24 52.1
3	9½	1 30	22 36.4	31	11½	6 33	25 15.7
31	10	1 33	25 22.7	25	10½	6 38	24 50.8
25	8	2 20	25 2.0	31	11½	6 49	25 12.4
3	11½	2 21	22 36.8	31	9½	7 2	25 13.6
31	10	2 24	25 28.6	25	9½	7 5	24 50.0
3	9	2 26	22 32.6	31	10	7 17	25 16.0
25	9½	2 33	25 6.2	3	10	7 36	22 47.2
31	9½	2 34	25 25.8	31	10½	7 51	25 26.3
25	9½	2 46	24 53.8	25	11½	7 57	25 7.1
3	9	2 47	22 39.8	25	10	7 59	25 5.6
25	9½	2 52	24 53.6	25	12	8 1	25 3.5
31	9	2 57	25 15.6	31	10½	8 5	25 23.3
31	10½	3 8	25 23.1	25	10	8 10	25 5.4
31	11	6 3 11	+25 23.3	3	11½	6 8 11	+22 45.0

Days Obs.	Mag.	$\alpha$ .			$\delta$ .	Days Obs.	Mag.	$\alpha$ .			$\delta$ .
3	9	h. m. s.			+22° 48.5	31	10½	h. m. s.			+25° 25.9
3	9		6 8 24			31	9½		6 13 49		
			8 35		22 46.3				13 52		25 23.7
31	10		8 42		25 15.4	25	10½		13 54		24 53.2
25	10		8 55		25 8.2	31	9½		13 54		25 26.9
25	11		8 59		25 7.7	25	10		13 55		24 50.8
31	11		9 18		25 24.4	25	9½		14 21		24 50.7
31	10		9 18		25 27.8	3	12		14 25		22 32.8
3	8		9 27		22 44.0	25	10		14 47		25 6.1
3	10½		9 27		22 50.5	31	11		15 3		25 28.2
25	9½		10 9		25 5.5	3	11½		15 7		22 35.2
3	11½		10 19		22 30.5	3	11½		15 23		22 37.4
25	10		10 22		25 2.7	31	11		15 30		25 25.2
31	11		10 22		25 28.3	25	10		15 47		25 4.9
25	10½		10 33		25 7.3	25	11		16 5		24 51.7*
31	9½		10 33		25 28.2	31	10		16 24		25 21.0
25	8		10 37		25 4.2	3	12		16 29		22 34.7
3	—		10 38		22 53.9†	31	9½		16 38		25 26.8
31	10		10 39		25 21.6	3	8½		16 46		22 38.0
3	9		10 50		22 53.8	25	9		16 46		24 55.4
3	9		11 3		22 54.7	31	10½		16 47		25 21.7
31	9½		11 17		25 14.7	25	10		16 49		24 54.3
3	8		11 19		22 48.7	25	11		17 3		25 5.7
31	10		11 45		25 25.9	25	9		17 37		24 49.8
25	11		11 56		24 57.2	31	10		18 8		25 13.5
31	10		12 1		25 10.7	3	12		18 16		22 38.5
25	10		12 4		24 56.6	31	10		18 22		25 25.5
25	10		12 17		25 3.0	3	10½		18 25		22 39.2
3	9½		12 21		22 47.2	3	9		18 33		22 33.8
3	11		12 36		22 37.7	31	10½		18 41		25 11.8
31	10		12 36		25 14.4	3	11		18 46		22 40.4
31	11		12 47		25 14.7	3	10½		19 22		22 50.4
3	9		12 50		22 39.3	31	10		19 23		25 24.9
25	9½		13 2		25 2.2	31	10		19 25		25 16.5
31	9		13 6		25 17.4	31	9		19 28		25 12.5
31	10		6 13 26		+25 21.2	3	10		6 19 36		+22 46.0†

\* N. of double.

† L. of double.



## APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
31	9½	<sup>h</sup> 6 <sup>m.</sup> 19 <sup>s.</sup> 45	+25° 12.4	31	10	<sup>h</sup> 6 <sup>m.</sup> 28 <sup>s.</sup> 36	+25° 23.5
3	10½	19 56	22 49.2	31	9½	28 48	25 11.9
3	10½	20 21	22 43.8	31	9½	28 51	25 14.8
31	9	20 34	25 31.5	3	11	28 54	22 48.5
3	10½	20 57	22 46.0	3	11½	29 27	22 45.9
3	11	20 57	22 47.0	2	11	29 33	22 8.2†
3	10½	21 5	22 51.4	3	12	29 45	22 47.6†
31	10	21 24	25 26.9	3	11	29 45	22 50.6
31	10	21 28	25 23.1	2	11	30 4	22 4.2
3	10	22 2	22 32.4	31	10	30 6	25 14.9
31	9½	22 19	25 13.4	31	9	30 11	25 11.9
31	11½	22 38	25 14.6	3	11	30 37	22 36.4
3	10	22 47	22 49.9	31	10	30 41	25 16.5
3	11	22 52	22 48.1	3	11	30 46	22 36.2
31	11	22 52	25 16.1	2	11	30 51	22 5.4
3	11½	22 55	22 49.9	31	10	31 32	25 15.3
31	10	22 57	25 17.5	2	11	31 51	21 55.0
31	10	23 3	25 16.8	3	9½	31 56	22 47.1
3	11½	24 3	22 36.5	3	10½	32 3	22 44.2
3	11½	24 12	22 35.1	2	10½	32 16	21 56.0
31	11	24 15	25 24.7	3	11	32 26	22 42.9
31	9	24 38	25 25.3	31	10	32 39	25 18.9
31	9½	24 45	25 18.6*	31	11½	32 39	25 11.4
31	9½	25 19	25 20.5*	31	11	32 40	25 15.9
3	11	25 38	22 51.6	2	9½	32 56	22 4.5
3	10½	25 39	22 44.0	2	9½	33 38	22 1.8
3	11½	25 42	22 44.8	2	10	33 41	22 12.6
3	11½	26 23	22 38.3	3	11½	33 55	22 34.5
3	9	26 50	22 34.1	3	10½	34 13	22 48.6
3	12	27 33	22 33.0	31	10	34 35	25 23.5
3	9	27 41	22 46.3	31	10	34 36	25 20.6
3	10	27 53	22 33.9	2	9	34 38	21 59.1
3	9	28 5	22 33.2	31	10	34 38	25 22.3
31	10	28 32	25 24.6	2	11	34 49	22 2.1
3	10½	6 28 36	+22° 51.2	2	11	6 34 56	+22° 4.2

\* (4).

† N. of double.

‡ N. p. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
2	10	6 35 2	+21 55.7	24	9½	6 38 46	+21 33.2
2	9	35 22	21 58.6	22	9½	38 53	21 15.3
24	10	35 24	21 38.2*	22	11	38 54	21 13.9
24	10	35 29	21 43.1†	2	10½	39 1	21 56.4
3	9	35 53	22 50.1	31	10	39 1	25 22.2
3	10	35 57	22 49.0	22	11	39 9	21 16.1
31	10	35 57	25 27.2	31	10	39 11	25 23.4
31	10	35 59	25 26.6	31	9½	39 16	25 23.1
31	10	36 1	25 22.4	31	10	39 42	25 18.7*
22	10	36 3	21 11.1	3	10	39 55	22 34.9
2	9	36 17	21 53.3	22	10	39 57	21 13.4
3	9½	36 17	22 49.2	31	10½	40 0	25 18.2*
22	12	36 17	21 20.4	2	11	40 2	21 56.1
22	9½	36 20	21 12.5	2	10	40 10	22 9.9
2	9½	36 26	21 57.9	22	11½	40 10	21 12.7
22	9½	36 34	21 15.1	2	12	40 20	21 57.2
31	9½	36 54	25 24.2	2	11	40 33	21 56.7
31	10	36 59	25 25.7	22	10½	40 35	21 22.8
2	10½	37 6	21 56.5	22 24	9½	40 45	21 26.9
31	10½	37 13	25 24.6	24	11	41 14	21 43.5
2	10	37 17	21 57.7	31	10	41 27	25 23.9
24	10½	37 17	21 36.2*	22	9	41 33	21 24.7
2	10½	37 23	21 54.9	2	11	41 38	21 58.6
31	11	37 25	25 26.4	2	9½	41 46	21 57.3
22	11	37 27	21 22.4	31	9½	41 48	25 25.6
3	9	37 28	22 51.1	22	10	41 55	21 17.0
22	12	37 37	21 22.8	2	11½	41 57	21 57.0
22	9	37 44	21 10.5	24	10½	42 12	21 43.4
31	10	37 51	25 25.4	24	10	42 14	21 43.5
2	9	38 19	21 53.9	2	11½	42 16	21 55.6
22	10	38 33	21 13.2	2	11½	42 22	21 55.6
2	10	38 35	22 2.9	24	10½	42 26	21 44.3
2	11	38 39	21 56.3	22	9	42 48	21 21.0
3	10	38 45	22 33.2	22	11½	42 57	21 21.4
22	12	6 38 45	+21 15.3	24	11	6 43 16	+21 46.6

## APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		$h. m. s.$	$^{\circ} \quad ' \quad ''$			$h. m. s.$	$^{\circ} \quad ' \quad ''$
2	II	6 43 21	+21 55.7	2	II $\frac{1}{2}$	6 49 42	+21 54.6
2	II	43 28	21 56.8	24	IO	49 42	21 44.9
2	II	43 35	21 58.1	2	II $\frac{1}{2}$	49 44	21 55.5
22	IO $\frac{1}{2}$	43 41	21 24.6	24	9 $\frac{1}{2}$	49 53	21 48.9
24	IO	44 8	21 43.3	2	IO	49 59	21 52.9
2	IO	44 10	22 0.4*	22	II $\frac{1}{2}$	50 23	21 24.4
2	II	44 19	21 54.7	2	IO	50 32	22 10.6
22	II	44 52	21 20.1	24	II	50 46	21 34.8
22	II	44 53	21 20.6	22	II	50 47	21 20.3*
22	II $\frac{1}{2}$	45 13	21 10.6	2	IO $\frac{1}{2}$	51 6	22 2.0
2	II	45 30	21 54.6	2	IO $\frac{1}{2}$	51 7	22 1.9
2	II	45 33	21 54.1	2	IO $\frac{1}{2}$	51 11	21 54.4
2	9	45 37	22 8.7	2	IO	51 17	22 2.2
24	IO $\frac{1}{2}$	46 1	21 40.9	2	IO $\frac{1}{2}$	51 19	21 54.4
24	IO $\frac{1}{2}$	46 3	21 40.3	24	IO $\frac{1}{2}$	51 19	21 32.3
2	9	46 36	21 54.3	22	9	51 31	21 27.0
2	II	46 37	21 57.1	24	II	51 33	21 32.4
22	II	46 41	21 10.8	22	IO	52 18	21 23.8
22	II	46 45	21 14.4	22	II	52 33	21 28.7
22	II	46 53	21 10.8	24	IO	52 46	21 42.9
2	12	46 58	21 56.3	24	II	52 58	21 43.0
22	IO $\frac{1}{2}$	47 6	21 10.5	22	II	53 16	21 12.6
2	IO $\frac{1}{2}$	47 20	22 5.5	2	9	53 20	21 58.7
2	II	47 22	21 52.8	22	II $\frac{1}{2}$	53 41	21 14.7
24	IO	47 26	21 48.7	22	IO $\frac{1}{2}$	53 49	21 15.1
24	IO	47 38	21 39.1	2	II $\frac{1}{2}$	54 4	21 56.4
22	II $\frac{1}{2}$	47 50	21 27.3	24	IO	54 4	21 35.3
22	9 $\frac{1}{2}$	47 57	21 22.0	24	IO	54 14	21 38.2*
24	IO	48 0	21 44.7	2	9 $\frac{1}{2}$	54 17	21 55.7
22	9	48 23	21 23.9	22	12	54 18	21 24.1
2	9	48 25	21 59.3	2	II	54 30	21 53.4
24	IO $\frac{1}{2}$	48 34	21 45.4	2	II $\frac{1}{2}$	55 3	21 53.2
2	II $\frac{1}{2}$	48 36	21 59.8	22	IO	55 4	21 11.3
2	9 $\frac{1}{2}$	48 42	22 5.3	2	II	55 8	21 52.9
2	9 $\frac{1}{2}$	6 48 53	+22 6.7	22	9	6 55 22	+21 15.2

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
22	9 $\frac{1}{2}$	<sup>h. m. s.</sup> 6 55 45	+21° 9.7	2	11 $\frac{1}{2}$	<sup>h. m. s.</sup> 7 2 13	+21° 53.2
24	10 $\frac{1}{2}$	55 47	21 42.6	22	12	2 22	21 25.7
22	9	55 55	21 16.2	22	9	2 27	21 26.8
2	10 $\frac{1}{2}$	55 57	21 58.1	2	8	2 37	21 58.6
24	10	55 57	21 27.0	22	10 $\frac{1}{2}$	2 42	21 12.4
2	9	56 6	21 59.4	2	12	2 45	22 10.3
2	11	56 10	22 5.2	22	10	3 28	21 13.0
2	11 $\frac{1}{2}$	56 12	22 9.0	22	10	3 29	21 13.3
24	11	56 38	21 31.9	2	11 $\frac{1}{2}$	3 35	22 10.2
22	9	56 40	21 22.4	2	11	3 50	22 2.4
24	10	56 49	21 42.7	22	10 $\frac{1}{2}$	4 13	21 10.4
22	11 $\frac{1}{2}$	56 51	21 27.4	22	10	4 19	21 9.7
2	11	57 20	22 5.7	2	11	4 37	21 53.4
24	10	57 21	21 34.0	2	11	4 37	22 9.9
22	11	57 35	21 12.0	22	10	4 54	21 24.9
2	9	57 41	22 6.3	2	11 $\frac{1}{2}$	5 20	21 53.3
22	10	57 56	21 2.8	2	11	5 26	21 52.7
22	10	58 3	21 12.5	22	9 $\frac{1}{2}$	5 42	21 11.1
2	10	58 5	21 52.2	22	10 $\frac{1}{2}$	5 48	21 27.6
24	10	58 10	21 41.1	22	10	6 19	21 15.1
2	10	58 23	21 52.5	2	11 $\frac{1}{2}$	6 20	21 58.0
24	10	58 27	21 42.6	22	10	6 28	21 12.7
22	9 $\frac{1}{2}$	58 28	21 22.8	2	12	6 29	21 54.7
22	9	58 59	21 27.3	2	10	6 31	21 52.2
22	9 $\frac{1}{2}$	59 12	21 25.7	22	11	6 54	21 14.2†
2	8	59 15	22 8.9	22	11	7 0	21 15.3
24	10	59 24	21 28.4	2	11	7 37	22 9.6
2	10 $\frac{1}{2}$	6 59 59	22 9.7	2	10	7 53	22 0.5†
24	10 $\frac{1}{2}$	7 0 13	21 40.9*	2	9	7 53	22 0.7
22	10 $\frac{1}{2}$	0 25	21 10.1	22	10	8 8	21 14.7
22	9	0 50	21 27.5	22	10 $\frac{1}{2}$	8 24	21 17.4
22	10 $\frac{1}{2}$	1 14	21 26.3	22	11	8 43	21 17.9†
22	10	1 28	21 12.0	22	10	8 52	21 14.1
22	10	1 33	21 12.3	2	10	9 16	22 9.1
22	10	7 2 3	+21 54.1	22	11	7 10 5	+21 13.9

\* p. by a small star.

† N. f. of double.

‡ (4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
2	9 $\frac{1}{2}$	<sup>h. m. s.</sup> 7 10 7	<sup>°</sup> +21 52.0	24	10	<sup>h. m. s.</sup> 8 8 53	<sup>°</sup> +22 39.4†
22	11	10 19	21 16.8	24	10	8 59	22 35.3
22	11 $\frac{1}{2}$	11 52	21 13.2	24	8	9 37	22 40.9†
22	12	12 8	21 13.4	24	11	10 3	22 48.8
22	11 $\frac{1}{2}$	12 14	21 12.9*	24	11	10 55	22 47.5
22	10 $\frac{1}{2}$	13 3	21 25.0	24	11	11 22	22 51.4
22	9	13 5	21 25.0	24	10 $\frac{1}{2}$	11 57	22 36.2
22	9	13 25	21 12.3	24	11	12 35	22 35.2
22	11	13 47	21 15.8	24	11	12 52	22 33.5
22	10 $\frac{1}{2}$	14 6	21 16.1	24	9	13 15	22 34.7
22	10	14 27	21 17.5	24	12	14 47	22 34.5
22	11	14 37	21 17.5	24	9 $\frac{1}{2}$	14 52	22 34.1
22	10	14 38	21 14.4	24	11	16 37	22 40.9
22	10	14 53	21 14.9	24	10	16 38	22 48.2
22	12	15 50	21 12.7	24	10 $\frac{1}{2}$	16 45	22 37.4
22	12	16 24	21 10.0	24	10	17 16	22 47.2
22	11 $\frac{1}{2}$	17 30	21 12.9	24	11 $\frac{1}{2}$	18 41	22 37.8
22	8	18 4	21 19.6†	24	11 $\frac{1}{2}$	18 54	22 36.3
22	9	20 17	21 12.8	24	9	19 11	22 35.5
24 •	10 $\frac{1}{2}$	59 11	22 37.4	24	9	19 31	22 43.5
24	11	7 59 51	22 44.0	24	10	20 28	22 30.9
24	9	8 0 5	22 43.1	24	11	20 54	22 47.8
24	10 $\frac{1}{2}$	1 6	22 29.0	24	8	21 10	22 31.4
24	9	1 48	22 35.4	24	11	22 29	22 45.1
24	10	1 51	22 43.5	24	11	22 35	22 32.8
24	11	2 3	22 36.0	24	11	23 32	22 30.7
24	9	2 20	22 34.8	24	10 $\frac{1}{2}$	24 59	22 37.6
24	11 $\frac{1}{2}$	3 4	22 47.3	24	11	25 32	22 44.1
24	10 $\frac{1}{2}$	3 36	22 42.5	24	10 $\frac{1}{2}$	26 12	22 35.3
24	9 $\frac{1}{2}$	4 50	22 36.3	24	9 $\frac{1}{2}$	26 14	22 42.4
24	10	4 54	22 33.7	24	12	27 55	22 46.5
24	10 $\frac{1}{2}$	5 3	22 47.6	24	10 $\frac{1}{2}$	29 15	22 45.7
24	10 $\frac{1}{2}$	6 51	22 36.1	24	11	29 21	22 46.8
24	9 $\frac{1}{2}$	7 11	22 38.9	24	11	29 44	22 46.9
24	9	8 8 45	+22 45.8	24	10 $\frac{1}{2}$	8 30 11	+22 40.9

\* N. of double.

† (4).

Notes.—2nd.—Between  $\alpha$ . 4h. 49m. and 5h. 11m., object-glass covered with frost.8th.—Between  $\alpha$ . 2h. 58m. and 3h. 44m., on examining the object-glass, found it covered with frost.,, Between  $\alpha$ . 4h. 20m. and 5h. 3m., object-glass covered with frost; magnitudes very uncertain.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

# 886 STARS NEAR THE ECLIPTIC,

OBSERVED IN FEBRUARY, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
I	10 $\frac{1}{2}$	4 40 15	+25 12.4	I	11 $\frac{1}{2}$	4 54 13	+25 23.1
I	11 $\frac{1}{2}$	40 37	25 15.4	I	II	55 7	25 28.5
I	12	41 46	25 15.2	I	10	55 53	25 23.5::
I	9	42 0	25 21.6*	I	10	55 57	25 27.8
I	11 $\frac{1}{2}$	43 22	25 13.9	I	10	55 58	25 25.1
I	11 $\frac{1}{2}$	43 39	25 16.0	I	II	56 23	25 24.7
I	11 $\frac{1}{2}$	43 58	25 15.9	I	10	56 53	25 26.7
I	II	44 19	25 17.3	I	10	57 24	25 18.7
I	11 $\frac{1}{2}$	44 23	25 11.8	I	10	57 40	25 17.0
I	II	45 18	25 24.7	I	II	57 54	25 17.3
I	II	45 29	25 17.4	I	10	58 4	25 19.3
I	II	45 30	25 27.2	I	10	58 30	25 23.2
I	8 $\frac{1}{2}$	45 30	25 28.8	I	10	59 54	25 14.1
I	10	46 21	25 14.5	I	9 $\frac{1}{2}$	4 59 59	25 19.9*
I	9 $\frac{1}{2}$	46 39	25 24.3	I	11 $\frac{1}{2}$	5 0 3	25 14.5
I	10 $\frac{1}{2}$	47 56	25 22.3	I	11 $\frac{1}{2}$	0 26	25 17.3
I	11 $\frac{1}{2}$	48 9	25 13.3	I	II	1 53	25 18.0
I	9	48 22	25 29.8::	I	II	2 4	25 18.9
I	11 $\frac{1}{2}$	48 28	25 15.4	I	10	2 8	25 25.6
I	10	49 36	25 25.5	I	10	2 34	25 20.7
I	11 $\frac{1}{2}$	50 18	25 17.8	I	10 $\frac{1}{2}$	2 39	25 15.9
I	II	50 28	25 17.4†	I	II	3 3	25 13.5
I	9 $\frac{1}{2}$	50 31	25 15.8	I	12	3 59	25 14.8
I	11 $\frac{1}{2}$	51 3	25 17.3	I	10	4 18	25 18.1
I	10	51 19	25 30.1	I	9 $\frac{1}{2}$	4 41	25 8.5
I	10	52 10	25 28.0	I	9 $\frac{1}{2}$	4 46	25 21.7
I	9 $\frac{1}{2}$	52 31	25 22.0	I	II	5 15	25 12.0
I	II	52 47	25 25.0	I	10 $\frac{1}{2}$	5 37	25 14.6
I	9 $\frac{1}{2}$	53 38	25 29.4	I	11 $\frac{1}{2}$	6 0	25 27.3
I	10 $\frac{1}{2}$	4 53 43	+25 28.1	I	9	5 7 7	+25 13.6

\* (4).

† N. S. of double.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<i>h. m. s.</i>			<i>°</i>			<i>h. m. s.</i>			<i>°</i>
I	10	5 7 15			+25 18.4	I	10	5 24 2			+25 28.3
I	II	7 39			25 11.8*	I	10	24 7			25 23.9
I	II $\frac{1}{2}$	8 35			25 18.4	I	9	24 54			25 28.7
I	II $\frac{1}{2}$	8 42			25 17.5	I	10	24 56			25 30.5
I	10	8 58			25 17.3	I	10 $\frac{1}{2}$	25 29			25 13.0
I	10	9 8			25 20.2	I	II	25 33			25 15.0
I	10	9 37			25 22.5†	I	10	25 44			25 16.0
I	II	10 5			25 26.7	I	9	26 30			25 28.0
I	10 $\frac{1}{2}$	10 20			25 28.0	I	10	26 41			25 22.3†
I	II $\frac{1}{2}$	11 8			25 30.0	I	9 $\frac{1}{2}$	26 59			25 25.3
I	II	11 16			25 25.0	I	9 $\frac{1}{2}$	27 20			25 23.2
I	10 $\frac{1}{2}$	11 22			25 28.5	I	9 $\frac{1}{2}$	27 26			25 26.3
I	10	11 26			25 24.6	2I	10 $\frac{1}{2}$	27 33			23 56.0
I	II $\frac{1}{2}$	12 24			25 15.5	2I	II $\frac{1}{2}$	27 35			23 54.7
I	II $\frac{1}{2}$	12 31			25 15.4	2I	10 $\frac{1}{2}$	27 35			23 50.2
I	10 $\frac{1}{2}$	12 44			25 25.6	I	10	27 58			25 26.8
I	10 $\frac{1}{2}$	12 57			25 23.8	2I	10	28 24			23 49.5
I	II	13 5			25 25.3	I	10	28 39			25 18.5
I	10	14 43			25 31.8	I	10	28 40			25 14.0
I	10	14 46			25 22.2†	2I	10	28 43			24 6.0
I	12	17 4			25 16.8	2I	9	28 45			24 7.5
I	12	17 7			25 15.9	2I	10	29 15			23 51.3
I	10	17 15			25 11.5	I	10 $\frac{1}{2}$	29 19			25 17.8
I	II	18 8			25 16.0	2I	II $\frac{1}{2}$	29 32			23 51.4
I	10 $\frac{1}{2}$	18 12			25 28.5	I	9	29 56			25 28.0
I	10	18 18			25 20.7	I	9	30 7			25 24.2
I	10	18 38			25 14.5	2I	10	30 8			23 55.6
I	10	19 39			25 12.8	I	9 $\frac{1}{2}$	30 10			25 20.1
I	10	20 13			25 17.2	I	8	30 16			25 13.1
I	10	20 22			25 12.3	2I	9 $\frac{1}{2}$	31 22			23 54.4
I	10	20 50			25 16.8	2I	12	31 26			23 50.8
I	10	21 20			25 16.7:	2I	9 $\frac{1}{2}$	31 27			23 53.8
I	9	22 8			25 11.4	I	II	31 49			25 18.4
I	9	23 7			25 14.2	I	II	31 52			25 25.3
I	II	5 23 48			+25 16.1	2I	10	5 31 55			+23 54.4

\* N. p. of double.

† (4).

‡ S. of doubles

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
I	9	<sup>h. m. s.</sup> 5 32 7	<sup>°</sup> +25 25.7	21	10	<sup>h. m. s.</sup> 5 41 23	<sup>°</sup> +23 52.2
21	10½	32 24	23 54.5	I	11	41 25	25 15.4
I	9	32 35	25 24.1	21	11½	41 26	23 52.5
21	10½	32 31	23 55.2	I	11	41 29	25 16.1
21	12	32 51	23 53.3	21	9½	42 10	23 51.0
I	10	33 19	25 14.0	I	10	42 44	25 15.1
I	9½	33 35	25 13.7	I	10	42 55	25 18.5
21	10	34 12	24 2.8	21	9½	43 6	24 6.9
21	10½	34 14	23 51.4	21	9½	43 8	23 52.4
21	9½	35 3	24 4.9	I	10½	43 32	25 28.3
21	9½	35 8	24 0.5*	I	11	43 59	25 11.9
21	10	35 22	24 7.6	I	11	44 4	25 16.2
I	10	35 24	25 24.8	21	9	44 7	24 2.3
I	10	35 48	25 24.6	21	9½	44 22	24 1.6
I	10	36 1	25 26.9	21	9½	44 32	24 0.4
21	9½	36 16	24 0.7	I	11	45 14	25 27.2
21	9½	36 16	23 50.5	I	11	45 33	25 27.7
I	11	36 35	25 15.7	21	10	46 17	24 0.4
21	10	36 56	23 54.4	I	9	46 29	25 26.2
21	11	37 9	23 53.2	21	11½	46 34	23 55.7
21	10½	37 21	24 6.3	21	9½	46 39	23 56.3
I	11	38 6	25 24.9	I	9	46 40	25 27.7
I	11	38 9	25 28.0	21	9½	46 40	24 2.5
21	10	38 22	24 0.6	I	10	46 44	25 22.2
I	10½	38 39	25 15.3†	21	9½	46 53	24 0.6
21	9½	38 39	23 51.5	26	11	47 4	21 7.7
I	10	39 9	25 15.9	26	10	47 18	21 8.5
I	10	39 11	25 18.1	26	10	47 30	21 9.2
21	10	39 35	23 57.2*	26	9½	47 51	21 24.2
I	10	39 42	25 15.9	21	10	47 54	24 7.1
I	11	39 51	25 15.5	21	11½	47 59	24 7.2
I	11	39 56	25 17.1	26	9½	48 11	21 26.0
21	10½	41 2	23 51.0	26	10	48 21	21 24.7
I	9	41 19	25 9.7	26	10	48 40	21 13.0
I	9	5 41 21	+25 10.4	21	10	5 48 48	+24 5.4



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
21	10	<sup>h. m. s.</sup> 5 48 48	<sup>°</sup> +24 6.9	21	11	<sup>h. m. s.</sup> 5 54 24	<sup>°</sup> +23 53.7
21	10½	48 51	23 59.9*	1	10½	54 25	25 25.7
1	10	49 16	25 14.6	26	11½	54 25	21 12.3
21	11	49 21	23 50.9	1	11	54 34	25 25.3
1	10	49 22	25 22.3	26	11½	54 35	21 16.4
21	10	49 34	23 51.7	21	10½	54 45	24 0.5
26	10½	49 43	21 22.1	1	10	54 47	25 17.6
26	9½	50 10	21 16.9†	26	9½	54 51	21 9.9
26	10½	50 15	21 11.9	26	11	55 2	21 16.1
21	11	50 31	23 53.1	21	11	55 39	24 5.0
26	10	50 36	21 25.0‡	21	10 <sup>o</sup>	55 40	24 2.0
21	12	50 44	23 55.4	21	10	55 40	24 3.5
21	9½	50 50	23 53.9	21	9½	55 43	23 56.8
1	10	51 7	25 18.7	26	9½	55 45	21 25.5
1	10	51 8	25 16.6	21	11	55 46	24 4.6
1	10½	51 14	25 17.4	26	9½	56 35	21 9.3
26	9½	51 49	21 23.0	21	10½	56 45	23 51.0
26	9½	51 53	21 9.4	26	10½	57 21	21 24.0
26	9	51 55	21 12.4	26	10	57 22	21 25.0
21	9½	51 58	23 54.2	26	11	57 32	21 20.1
21	10	52 2	23 57.2	26	10½	57 33	21 13.4
26	9½	52 32	21 27.1	26	9½	57 37	21 13.9
26	9½	52 37	21 17.7	21	9½	57 48	23 56.1
21	11	52 54	23 49.5	26	11	57 55	21 14.8
26	8	52 56	21 26.8	26	9½	58 0	21 15.4
26	9½	52 56	21 17.8	21	9½	58 1	24 7.0
26	9½	52 58	21 19.8	21	9½	58 20	23 57.7†
21	8½	53 0	23 55.3	21	9½	58 21	24 4.9
26	*9½	53 0	21 24.7	26	11½	58 59	21 10.6
21	11	53 3	23 49.7	26	9½	59 7	21 7.0
1	10	53 27	25 26.6	26	10	59 25	21 7.7
1	9½	54 4	25 19.0	21	9½	59 36	24 6.8
21	9½	54 15	23 56.6	21	9½	5 59 39	24 6.3
21	10	54 16	24 0.5	21	8½	6 0 3	23 54.4
26	11½	5 54 22	+21 10.9	26	9½	6 0 17	+21 10.2

\* S. f. of double.

† (4).

‡ S. p. of double. •

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
26	9	<sup>h.</sup> 6	<sup>m.</sup> 0	<sup>s.</sup> 28	+21 19.6*	21	9½	<sup>h.</sup> 6	<sup>m.</sup> 9	<sup>s.</sup> 28	+23 56.5*
21	9½			0 29	23 53.3	26	10			9 38	21 16.2
26	9½			0 30	21 23.2	21	9½			9 46	23 49.6
21	9½			0 31	23 50.8	26	10½			10 4	21 13.6
21	9½			0 51	23 54.9	21	9½			10 42	23 52.9
26	8			1 8	21 15.3	26	9½			10 47	21 23.3
21	9½			1 11	24 7.2	21	9½			10 50	23 53.5
21	8½			1 46	23 49.7	26	9½			10 59	21 27.5
26	10			1 58	21 14.3	21	10			11 4	23 55.2
21	9½			2 9	24 0.4	26	10½			11 28	21 11.6
21	* 9½			2 17	24 3.0	26	8			11 34	21 9.0
26	10			2 22	21 17.7	21	10			11 55	23 54.4
26	9½			2 26	21 9.5	26	10			12 57	21 17.6
26	10			2 33	21 16.0	21	8½			13 21	24 7.3
21	9½			2 37	24 1.1	21	11½			13 22	24 5.7
26	10½			2 38	21 16.6	21	8½			13 31	24 6.6
21	9½			2 48	24 3.8	21	9			13 41	24 7.0
26	9			2 53	21 13.8	26	9			13 55	21 17.0*
21	9½			3 12	22 52.5	26	10			14 9	21 10.9
21	9			3 58	23 53.4	21	8½			15 19	24 0.4*
26	9½			4 4	21 14.4	21	10			15 23	24 3.6
26	11			4 19	21 14.4	21	10			15 24	24 1.8
26	9½			4 26	21 26.7	26	9½			15 41	21 11.9
26	9½			4 56	21 24.9	26	9			15 48	21 17.3
26	9			5 6	21 27.3	21	11			15 50	23 56.6
21	9½			5 38	23 57.0	21	9½			15 52	23 55.2
21	9½			6 2	24 3.6	26	8			16 2	21 21.7
26	9			6 30	21 17.2	26	11			16 17	21 10.7
21	9½			7 22	24 6.4	26	10			16 20	21 21.4
21	9½			7 37	24 7.4	26	10			16 29	21 12.1
26	10			8 21	21 13.5	21	11			17 5	23 54.6
21	9			8 22	23 50.0	21	9½			17 13	23 55.2
26	10			8 38	21 14.1	21	9½			17 18	23 53.4
26	10			8 45	21 15.6	26	11			17 23	21 9.9
26	10			6 9 27	+21 17.3†	26	11			6 17 31	+21 12.7

\* (4).

† N. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
26	9½	<sup>h. m. s.</sup> 6 17 32	<sup>°</sup> +21 14.5	21	9	<sup>h. m. s.</sup> 6 24 5	<sup>°</sup> +23 53.5
26	11	17 37	21 12.4	26	10	24 10	21 17.0
21	10½	17 41	23 56.7	26	11	24 34	21 14.0
26	10	18 44	21 17.3	21	11½	24 41	23 53.1
26	11½	18 59	21 17.4	26	8	24 50	21 9.5
26	11	19 3	21 16.7	21	9½	24 57	23 53.6
26	11	19 13	21 17.4	21	9½	25 5	23 51.4
21	9½	19 25	24 3.1	21	8½	25 25	23 57.0
21	8½	19 28	23 57.8	26	10½	25 36	21 12.1
21	11	19 36	24 3.0	21	9½	25 38	23 50.8
21	8½	19 47	23 54.3	26	9½	25 50	21 16.3
21	9½	19 53	23 54.8	26	9½	26 4	21 13.2
26	9½	20 34	21 17.2	26	10	26 21	21 24.6
26	9½	20 44	21 17.4	21	10	26 40	23 47.7
26	9	20 46	21 9.4	21	11	26 44	23 52.7
21	9½	20 57	23 52.8	26	9½	27 22	21 11.6
26	11	20 57	21 14.5	21	11	27 28	23 55.6
26	11	21 0	21 14.8	21	10	27 29	23 57.2
21	9½	21 1	24 6.8	21	9½	27 29	24 5.9
21	11	21 2	23 54.5	21	9½	27 43	24 2.3†
26	9	21 4	21 11.2	26	9	28 9	21 14.2
26	11	21 54	21 10.2	26	11½	28 12	21 10.1
21	9½	21 55	24 5.1	26	11	28 16	21 11.6
26	10½	22 6	21 14.0	26	10	28 38	21 11.9
21	11	22 10	24 5.3	26	9½	29 21	21 12.5
21	10½	22 17	24 6.5	26	10	29 22	21 10.7
26	10½	22 37	21 9.8	26	10	29 42	21 15.2
21	8½	23 6	23 54.4	21	9½	29 59	24 4.9
21	11½	23 7	23 51.9	26	9	30 16	21 24.4
26	11½	23 22	21 23.0	26	9½	30 24	21 24.9
26	10½	23 27	21 22.9	21	9½	30 35	24 1.4
26	11½	23 28	21 21.9	21	9½	30 37	24 2.6
21	10	23 35	24 3.5	26	11½	30 57	21 15.0
21	9½	23 56	53 49.9	26	11	31 22	21 14.8
26	9½	6 24 3	+21 17.0	26	9	6 31 29	+21 18.8

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>° ' "</sup>			<sup>h. m. s.</sup>	<sup>° ' "</sup>
21	9½	6 31 36	+24 4.3	21	9½	6 38 36	+23 47.2
21	10	31 42	24 3.7	21	9½	38 59	23 53.2
26	9½	31 47	21 15.2	21	11	39 7	23 52.5
26	11	31 56	21 17.5	21	10	39 26	23 54.7
21	9½	32 4	24 3.0	21	11½	39 36	23 54.1
21	9½	32 4	24 4.9	21	8½	39 50	23 54.1
21	8	32 4	24 6.2	26	11	40 31	21 25.5
26	8½	32 50	21 19.4	21	10	40 35	24 8.0
26	11	33 2	21 24.9	21	9½	40 46	24 3.5
26	11	33 3	21 27.2	21	9½	40 53	24 7.8
26	9	33 8	21 20.2	21	9½	40 59	24 6.1
26	11	33 11	21 26.7	21	10	41 34	24 7.7
21	9½	33 17	24 6.8	26	10½	41 54	21 14.9
21	9½	33 26	24 4.3	21	10½	41 57	23 50.4
21	9½	33 54	24 5.9	26	10½	41 57	21 14.9
21	9½	34 5	24 6.1	26	10	42 15	21 15.4
21	9½	34 9	24 6.8	21	9½	42 26	23 51.3
26	10	34 21	21 12.4*	26	10	42 26	21 14.8
21	8½	34 33	24 5.9	26	9	42 31	21 13.3
26	10	34 34	21 23.9	21	9½	43 3	24 2.4
21	9½	34 45	24 4.9†	21	9½	43 8	24 1.1
26	9	34 55	21 13.2	26	11½	43 13	21 11.6
26	10½	35 19	21 16.0	26	11½	43 15	21 12.3
26	10½	35 22	21 11.6	26	11	43 19	21 8.0
26	11	35 24	21 15.5	21	9½	43 50	24 3.1
26	10	35 26	21 12.0	26	12	43 55	21 11.0
21	9	35 54	24 2.1	21	9	43 58	24 1.9
26	9½	36 24	21 11.2	26	10	44 17	21 12.6
21	9	36 32	24 0.2‡	26	10	44 20	21 10.8
26	11	36 45	21 14.8	21	9½	44 33	24 3.4
21	10	37 11	23 53.3	21	9½	44 40	24 1.6
26	9	37 24	21 19.7	26	9	44 54	21 14.2
26	10	38 26	21 17.4	28	9	44 56	23 29.8
26	10	38 29	21 18.3	28	11	45 25	23 32.1
21	10½	6 38 34	+23 52.4	26	10½	6 45 29	+21 13.6

\* S. of double.

† N. p. of double.

‡ (4).

## APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Magn.	$\alpha$ .	$\delta$ .	Days. Obs.	Magn.	$\alpha$ .	$\delta$ .
21	10	<sup>h. m. s.</sup> 6 45 38	+23° 47.8	21	10	<sup>h. m. s.</sup> 6 52 1	+24° 6.8
21	9½	45 42	23 52.8	21	9½	52 10	24 7.3
28	9½	45 46	23 37.6	28	10	52 19	23 45.6
28	9½	46 0	23 34.4	28	10	52 32	23 43.8
21	10½	46 4	24 6.2*	21	8½	53 0	23 53.0
28	10	46 14	23 37.6	28	11	53 1	23 35.5
21	9½	46 31	24 6.7	28	10½	53 22	23 30.5
28	10	46 31	23 46.1	21	10½	53 27	23 55.4
28	9	46 38	23 40.6	21	9½	53 29	23 56.3
28	9½	47 6	23 43.2	28	9	53 32	23 34.9
21	9	47 25	24 8.1	28	11*	53 35	23 31.9
28	10	47 35	23 26.8	21	11	53 47	23 55.7
21	8½	47 47	24 5.0†	21	10	53 49	23 57.0
21	9½	48 3	24 6.4	28	10	53 59	23 31.7
28	9	48 5	23 31.4	28	10	54 28	23 46.1
28	10	48 40	23 32.1	28	11½	54 48	23 30.9
21	9½	48 47	24 3.8	21	11	54 53	23 51.5
28	10½	48 57	23 31.1	21	8½	54 59	23 53.5
28	10½	49 0	23 39.8	28	9	55 1	23 36.9
21	9½	49 6	24 2.0	28	11½	55 5	23 32.0
21	10	49 22	23 57.3	21	9	55 16	24 4.1
28	9½	49 27	23 34.0	28	10	55 28	23 36.1
21	9½	49 35	23 58.3†	28	9½	55 44	23 46.9
28	11	49 35	23 33.0	21	11	56 3	23 51.7
28	9½	49 39	23 30.3	21	10	56 4	23 56.8
21	10	49 44	23 57.6†	28	10	56 11	23 33.3
28	10	50 8	23 48.5	28	10	56 24	23 34.2
28	11½	50 29	23 47.5	21	10½	56 47	23 53.8
28	10	50 43	23 48.6	21	9	57 9	23 53.0
28	9½	51 5	23 29.4	21 28	9½	57 10	23 49.9
21	11½	51 10	24 3.7	28	9½	57 26	23 49.1
21	11	51 10	24 4.2	21	9½	57 31	24 0.0
28	10	51 17	23 30.7	28	9½	57 34	23 43.5
28	10½	51 38	23 32.6	21	9½	57 39	23 59.5
21	9	6 51 43	+23° 56.0	28	9½	6 57 51	+23° 45.2

\* N. p. of triple.

† S. of 3.

‡ (4.)

Days.Obs.	Mag.	$\alpha$ .	$\delta$ .	Days.Obs.	Mag.	$\alpha$ .	$\delta$ .
28	9 $\frac{1}{2}$	<sup>h. m. s.</sup> 6 58 6	<sup>°</sup> +23 42.1	28	10	<sup>h. m. s.</sup> 7 5 16	<sup>°</sup> +23 35.9
21	8	58 7	24 7.6	28	12	5 30	23 36.2
28	9	58 20	23 49.9	21	9	5 31	23 53.3
28	11	58 22	23 35.8	28	11 $\frac{1}{2}$	5 47	23 36.3
28	10	58 59	23 47.1	26	11 $\frac{1}{2}$	5 55	24 17.7
21	9	59 39	24 0.2*	26	11	6 2	24 18.5
21	9 $\frac{1}{2}$	6 59 51	23 52.7	26	10	6 29	24 19.2*
21	10 $\frac{1}{2}$	7 0 20	23 59.9	28	9 $\frac{1}{2}$	6 31	23 42.0
28	10	1 28	23 35.6:	26	11	6 38	24 25.5
28	10	1 30	23 36.1	21	10 $\frac{1}{2}$	7 16	23 54.2
28	11	1 35	23 43.9	21	10 $\frac{1}{2}$	7 20	23 50.6
26	11	1 38	24 10.7	26	9 $\frac{1}{2}$	7 20	24 16.9
21	10 $\frac{1}{2}$	1 46	23 56.9	28	9	7 30	23 43.9
21	11 $\frac{1}{2}$	1 58	24 3.4	28	9	7 34	23 44.4
21	9 $\frac{1}{2}$	1 59	24 4.4	21	10 $\frac{1}{2}$	7 41	23 51.0
21	10 $\frac{1}{2}$	2 7	23 57.8	21	11	7 42	23 52.9
26	12	2 9	24 12.5	28	9 $\frac{1}{2}$	7 45	23 40.3*
21	9 $\frac{1}{2}$	2 29	24 4.9	28	10	8 4	23 36.5
26	10 $\frac{1}{2}$	2 35	24 19.0	28	9	8 8	23 40.9
26	10 $\frac{1}{2}$	2 35	24 13.0	21	9 $\frac{1}{2}$	8 15	23 51.8
28	9	2 35	23 27.9	26	11	8 30	24 23.8
28	11	2 57	23 30.8	28	11	8 31	23 33.4
21	9 $\frac{1}{2}$	3 4	23 54.9	21	8 $\frac{1}{2}$	8 44	23 54.6
21	9 $\frac{1}{2}$	3 21	24 4.2†	26	11	8 46	24 24.5
21	11	3 29	24 4.4	21	9 $\frac{1}{2}$	8 55	23 56.2
21	10	3 33	24 8.2	21	11	9 10	23 55.7
28	12	3 34	23 45.6	21	11	9 16	23 56.5
21	11	3 35	24 5.7	28	8	9 21	23 44.0
26	9 $\frac{1}{2}$	4 3	24 21.8	28	9 $\frac{1}{2}$	9 34	23 35.2
21	10 $\frac{1}{2}$	4 24	24 7.0	21	8 $\frac{1}{2}$	9 35	24 2.7
28	10 $\frac{1}{2}$	4 34	23 35.0	21	9	9 36	24 1.1
28	10	4 44	23 36.6	28	10 $\frac{1}{2}$	9 42	23 42.3
26	11	4 58	24 11.5	26	10 $\frac{1}{2}$	9 45	24 27.1
28	10	4 58	23 37.6	28	10	9 52	23 34.1
21	11	7 5 16	+23 54.2	26	10 $\frac{1}{2}$	7 10 12	+24 16.7

## APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
26	9½	7 10 16	+24 14.9	21	10	7 14 47	+24 3.6
21	9½	10 25	24 10.0	26	10½	15 17	24 27.1
28	10	10 41	23 46.0	21	9½	15 18	23 54.8†
21	9	10 44	24 11.1	28	10½	15 20	23 31.3
28	9½	10 56	23 30.6	28	8	15 22	23 42.2
21	—	11 12	23 54.9	28	11½	15 26	23 33.6
21	9	11 13	23 52.4	26	9½	15 27	24 16.7
28	10	11 19	23 47.5	21	10	15 33	23 53.6
28	10	11 28	23 40.0*	26	11	15 37	24 22.2
26	10½	11 41	24 25.6	26	10	15 56	24 9.7
26	9	11 43	24 19.1	28	10	16 34	23 41.3
26	11½	11 47	24 23.4	21	11	16 35	24 2.5
26	9½	11 48	24 20.6	21	9½	16 48	24 3.8
28	11	11 56	23 46.6	28	11½	16 50	23 40.3:
28	11	12 0	23 44.6	26	8½	17 0	24 16.2
26	10	12 10	24 23.9	26	11½	17 4	24 15.5
26	11	12 19	24 22.4	28	11	17 7	23 43.6:
21	9½	12 23	23 58.9	28	9½	17 7	23 29.4
28	10	12 53	23 44.6	21	9	17 16	23 59.7
21	9½	12 59	24 0.1*	26	10½	17 16	24 16.2
28	11½	12 59	23 32.5	21	9	17 19	24 0.6*
26	11	13 16	24 28.0	26	9½	17 35	24 24.5
28	10	13 16	23 45.7	26	11½	17 46	24 24.0
26	9	13 17	24 24.6	21	9½	17 58	23 53.1
26	11	13 28	24 27.2	28	10	18 14	23 41.8
28	10	13 32	23 42.2	28	10	18 29	23 32.5
21	11½	13 37	24 1.9	28	10	18 32	23 40.2
26	9½	13 40	24 20.8	21	9½	18 42	24 6.2
21	9½	13 41	24 4.7	21	10	18 54	24 6.9
21	11	13 46	24 4.9	21	10½	18 55	24 7.1
28	10	14 17	23 45.8	26	11	19 13	24 18.8
26	10½	14 20	24 12.6	21 26	9	19 24	24 10.4
28	9½	14 22	23 31.2	26	9½	19 31	24 13.9
26	9½	14 30	24 11.0	26	9½	19 33	24 19.3
21	9½	7 14 40	+23 49.7	26	10	7 19 33	+24 20.8

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		h. m. s.					h. m. s.		
21	10	7 19 41	+24	8.3	21	10	7 24 16	+24	5.2
21	10	19 51	24	7.3	26	9½	24 19	24	27.7
21	8	20 2	24	6.3	21	11	24 32	24	3.2
28	12	20 4	23	47.6	26	10½	24 54	24	22.6
26	11½	20 49	24	27.8	28	9½	24 59	23	33.7
26	11	20 51	24	27.7*	26	11½	25 0	24	22.9
21	8½	20 59	24	5.8	26	8	25 1	24	24.6
21	9½	21 9	23	57.5	26	11	25 23	24	26.3
28	11½	21 11	23	42.1	21	9½	25 29	23	54.0
28	11½	21 12	23	40.7	21	11	25 41	23	52.4
28	12	21 12	23	32.6	21	11	25 45	23	51.1
21	10	21 14	23	54.0	21	10½	26 21	23	50.9
28	10	21 17	23	31.3	26	11	26 21	24	23.8
21	9½	21 28	23	55.2	26	11	26 29	24	23.3
26	9½	21 35	24	24.2	26	9	26 29	24	11.9
21	8½	21 43	23	57.5	21	9½	26 30	24	5.6
26	10½	21 47	24	23.8	26	11	26 44	24	21.8
26	8½	22 2	24	28.2	21	11	27 0	23	50.0
26	8½	22 3	24	25.9	26	10	27 0	24	15.0
21	10½	22 8	24	1.8†	26	10	27 1	24	13.0
28	9½	22 18	23	32.1	21	11	27 13	23	50.9
28	9½	22 47	23	37.9	21	11	27 59	23	54.1
21	11	22 48	23	55.9	26	9½	28 21	24	23.9
28	10	22 48	23	34.7	26	10	28 32	24	24.1
28	10	22 53	23	30.7	26	10	28 32	24	14.6
21	11	23 0	23	55.7	21	9½	28 34	23	58.0†
26	10	23 0	24	26.7	26	9½	28 42	24	14.3
28	10	23 5	23	34.8	21	11	28 56	23	53.0
26	11	23 15	24	26.3	21	10	29 18	23	57.2
28	9	23 22	23	31.4	21	9½	29 21	23	58.3
21	10½	23 31	24	4.0	26	8½	29 35	24	8.1
26	8½	23 31	24	24.1	21	8½	29 41	23	50.8
28	10	23 48	23	34.1	26	10	30 10	24	30.4
28	8	23 53	23	47.4	26	10½	30 16	24	24.8
21	9½	7 24 9	+24	2.8	26	10	7 30 26	+24	22.7

\* Not same as preceding.

† p. of double.

‡ (1).

D



## APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup> <sup>'</sup> <sup>"</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup> <sup>'</sup> <sup>"</sup>
21	9½	7 30 43	+23	50.3	26	11	7 39 18	+24	23.2
26	10	30 47	24	14.4	21	10	39 35	23	57.7
21	10½	30 59	23	51.0	21	11½	39 35	23	50.4
26	9½	31 27	24	27.8	26	9½	39 36	24	24.1
21	9½	31 37	24	2.5	26	8	39 40	24	27.1
21	9½	31 38	23	52.0	21	10½	39 52	23	51.2
26	9½	32 0	24	25.6	21	11	40 26	24	1.0
26	10½	32 13	24	25.0	26	11	40 39	24	25.2
26	8½	32 14	24	28.4	21	9½	40 42	23	51.0
21	8½	32 35	23	52.2	26	8½	40 51	24	23.5
21	8½	32 37	23	57.6*	26	11	40 52	24	14.3
26	8	32 57	24	23.7	26	11	40 56	24	13.7
26	10½	33 20	24	25.1	21	10	41 23	24	7.6
26	9½	33 22	24	12.8	21	11	42 3	24	1.1
26	11½	33 25	24	23.0	26	11	42 28	24	13.0:
21	10½	33 43	23	49.6	26	11	42 32	24	12.4
26	8	33 46	24	28.7	21	9½	42 58	24	0.2
26	8½	33 57	24	22.2	26	9½	43 25	24	11.6
21	8½	34 11	23	53.7	26	10½	43 26	24	14.1
26	9½	34 13	24	28.2	21	10½	43 28	24	4.6
26	10	34 16	24	21.9	26	10½	43 28	24	15.5
26	10	34 24	24	22.7	21	8½	43 50	23	52.8
21	10	34 35	24	2.4	26	10	44 12	24	28.0
21	9½	34 48	23	54.9	26	10½	44 24	24	12.6
21	10	35 23	23	58.1	26	10½	44 31	24	12.7
21	10	36 4	24	1.6	21	9½	44 43	23	49.8
21	10	36 6	24	0.4	26	8½	45 12	24	16.0
26	11	36 17	24	27.1	21	8½	45 15	23	53.3
26	10	36 54	24	23.7	26	10½	45 18	24	13.7
26	10	36 54	24	25.2	21	10½	45 39	23	56.5
26	9½	37 21	24	28.0	26	11	45 51	24	14.2
26	11	38 5	24	25.2	21	10½	45 56	23	53.2
26	10	38 57	24	22.3	26	9½	46 2	24	19.5
26	8½	39 12	24	23.8	26	10	46 9	24	14.7
21	10½	7 39 18	+23	50.0	26	11	7 47 13	+24	28.1

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
21	10	7 47 23	+24 7.4	21	9½	7 53 39	+24 6.0
26	10	47 29	24 25.6	21	10	53 49	23 58.3
26	10	47 29	24 26.0	26	8½	54 12	24 21.1
26	11½	47 51	24 27.8	21	11	54 33	24 2.0
26	12	47 52	24 27.9	21	11	54 33	24 3.6
21	11	48 14	24 3.9*	26	11	54 59	24 24.1
21	11	48 24	24 5.5	21	11	55 43	24 4.3
26	8½	48 24	24 30.0	26	11	56 12	24 16.6
26	11½	48 57	24 25.7	26	9½	56 29	24 16.4
21	10	49 5	23 47.5	21	10½	56 52	24 6.6
26	11	49 23	24 23.4	26	9½	56 54	24 14.1
26	11	49 24	24 25.6	26	10½	56 57	24 19.0†
26	11	49 31	24 26.8	26	10½	57 0	24 19.0†
21	10	49 36	23 50.8	21	9½	57 14	24 3.9
21	11½	49 56	23 50.4	21	10	57 16	23 51.1
26	8½	50 36	24 17.1	21	9½	57 23	23 47.4
21	10½	50 42	24 8.3	21	9½	58 45	23 57.5
26	10	51 7	24 22.7	21	9½	58 53	24 3.9
21	10	51 18	24 3.8	21	10	58 56	24 8.3
26	10	51 21	24 22.9	21	8½	7 59 13	24 7.1
21	10	51 27	23 52.9	21	10	8 0 22	24 0.7
26	9½	51 41	24 25.5	21	9½	0 23	24 0.7‡
26	10	51 49	24 12.7	21	9½	0 28	24 9.3
21	10½	51 51	24 2.7	21	9½	0 31	24 4.1
26	9	52 32	24 22.6	21	11	1 28	24 7.2
21	11	52 44	24 1.4	21	9	2 24	23 57.4†
26	11	53 6	24 17.8	21	9½	2 56	24 2.5
26	10½	7 53 15	+24 20.1	21	9	8 3 26	+24 0.0†

\* S. p. of double.

† (4).

‡ Not same as preceding.

NOTE.—26th.—Between  $\alpha$ . 5h. 47m. and 6h. 46m. the number of stars passing through the field was sometimes perplexing.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

# 602 STARS NEAR THE ECLIPTIC,

OBSERVED IN MARCH, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
6	9 $\frac{1}{2}$	<sup>h. m. s.</sup> 6 19 22			+23° 26.3	6	11	<sup>h. m. s.</sup> 6 30 23			+23° 23.2
6	10	19 55			23 21.7	6	8 $\frac{1}{2}$	30 31			23 24.7
6	11 $\frac{1}{2}$	20 0			23 20.2	6	10	31 15			23 20.1
6	11	20 9			23 27.3	6	11	31 56			23 12.6
6	12 $\frac{1}{2}$	21 8			23 25.7	6	11	31 56			23 10.9
6	10	21 43			23 22.3	6	11	32 1			23 13.7
6	10 $\frac{1}{2}$	22 18			23 24.9	6	11 $\frac{1}{2}$	32 11			23 10.9
6	10 $\frac{1}{2}$	23 8			23 14.8	6	11	32 55			23 10.3
6	11	23 9			23 12.3	6	10	33 28			23 15.7
6	11	23 9			23 11.8	6	11 $\frac{1}{2}$	33 56			23 26.9
6	12	23 34			23 14.7	6	10 $\frac{1}{2}$	34 2			23 19.7
6	10	23 35			23 13.2	6	8 $\frac{1}{2}$	34 45			23 20.9
6	10 $\frac{1}{2}$	24 6			23 12.8	6	8 $\frac{1}{2}$	34 47			23 26.8
6	9 $\frac{1}{2}$	24 41			23 9.8	6	9	35 18			23 23.1
6	11	24 55			23 13.8	6	8	35 42			23 26.7*
6	11	25 29			23 25.1	6	9	36 42			23 27.2
6	9 $\frac{1}{2}$	26 6			23 28.0	6	10	36 43			23 24.9
6	9 $\frac{1}{2}$	26 8			23 26.1	6	10 $\frac{1}{2}$	36 59			23 17.7†
6	10	26 42			23 26.1	6	11 $\frac{1}{2}$	38 17			23 9.7
6	10	26 47			23 25.5	6	8	39 12			23 23.0
6	11 $\frac{1}{2}$	27 20			23 15.2	6	9	39 20			23 19.4†
6	11 $\frac{1}{2}$	27 35			23 13.7	6	9	40 2			23 17.2†
6	8	27 36			23 12.8	6	10	40 10			23 17.0†
6	11 $\frac{1}{2}$	27 44			23 13.7	6	8	40 49			23 10.9
6	9	28 41			23 23.1	10	10	40 53			20 37.8
6	9 $\frac{1}{2}$	28 43			23 13.9	10	10 $\frac{1}{2}$	41 7			20 39.9
6	10 $\frac{1}{2}$	28 59			23 11.4	10	11	41 18			20 30.2
6	9	29 1			23 13.4	10	11	41 38			20 34.4
6	10	29 11			23 12.6	6	10	41 40			23 28.3
6	8 $\frac{1}{2}$	6 30 19			+23 21.0	6	12	6 41 41			+23 29.6

\* L. of double.

† (4).

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup>
6	9	6 41 41		+23 26.0	10	9½	6 48 10		+20 39.9*
6	8	42 37		23 24.9	10	8	48 18		20 41.2
6	9½	42 46		23 26.1	6	10	48 52		23 22.4
6	11	42 50		23 20.4	6	9	48 57		23 22.6
10	9	42 54		20 46.5	6	10½	49 18		23 22.1
6	11	42 56		23 19.9	6	8½	49 29		23 22.6
10	10	43 1		20 35.8	10	11	49 33		20 31.9
10	9½	43 12		20 46.8	10	11	49 56		20 43.3
10	10	43 17		20 40.3*	6	10	50 16		23 26.1
10	8	43 26		20 45.7	10	9½	50 20		20 45.9
6	7½	43 35		23 10.9	10	10	50 25		20 40.3
10	8	43 57		20 32.9	10	9	50 26		20 47.4
6	9	44 17		23 12.1	10	7	50 29		20 38.6*
6	9	44 37		23 15.5	10	9½	50 39		20 47.5
6	10	45 1		23 17.9	6	10	51 16		23 26.1
6	10	45 6		23 17.5	10	11½	51 44		20 47.1
10	9	45 21		20 35.9	10	10½	52 4		20 41.8
10	10½	45 30		20 46.8	6	10	52 10		23 26.0
10	10½	45 33		20 47.3	6	8½	53 4		23 17.1*
6	9½	45 34		23 20.9	6	10½	53 9		23 13.0
6	10	45 36		23 24.1	6	10½	53 17		23 11.0
10	10½	45 37		20 47.3	10	11	53 21		20 34.8
10	8½	45 42		20 39.8*	10	10	53 28		20 37.7
6	10	45 43		23 24.2	10	11	53 35		20 36.5
6	10	46 33		23 27.0	6	10½	53 37		23 15.1
6	10	46 42		23 26.6	10	10	53 51		20 37.6
6	11	46 47		23 26.1	10	9	54 25		20 36.0
10	9	46 59		20 30.6	10	10	54 38		20 33.9
10	9	47 13		20 46.8	6	11	54 47		23 13.1
6	9	47 29		23 11.0	6	8	54 49		23 17.4
6	11½	47 40		23 12.0	10	10	54 51		20 32.0
6	9	47 44		23 13.3	10	8½	55 2		20 31.8
6	9	47 49		23 10.1	6	9	55 29		23 16.7
10	8	48 4		20 44.8	6	11	55 40		23 16.6
10	8	6 48 4		+20 46.3	10	8	6 56 3		+20 43.9

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
10	8 $\frac{1}{2}$	<sup>h. m. s.</sup> 6 56 5	<sup>°</sup> +20 42.4	6	11 $\frac{1}{2}$	<sup>h. m. s.</sup> 7 4 3	<sup>°</sup> +23 12.2
10	10	56 23	20 41.0	10	10	4 13	20 33.0
6	11	56 28	23 14.7	10	9	4 16	20 33.6
10	9	56 36	20 36.6	10	11	4 28	20 35.3
10	10 $\frac{1}{2}$	56 44	20 44.0	6	8	4 31	23 14.2:
6	12	57 28	23 13.2	6	8	4 58	23 14.3
6	12	57 30	23 14.1	6	10	5 50	23 21.2
10	8	57 44	20 49.5	10	10	5 52	20 36.2
10	7 $\frac{1}{2}$	57 51	20 44.3	10	10	5 56	20 36.8
6	9 $\frac{1}{2}$	58 2	23 21.2	10	10 $\frac{1}{2}$	6 4	20 37.6
10	10 $\frac{1}{2}$	58 16	20 31.4	6	10 $\frac{1}{2}$	6 11	23 22.6
10	10	58 24	20 36.0	6	10	6 19	23 23.4
6	8 $\frac{1}{2}$	58 25	23 21.4	6	8	7 6	23 13.4
6	7 $\frac{1}{2}$	58 34	23 25.7	10	10	7 17	20 32.1
10	10	59 12	20 30.9	6	11	7 18	23 26.5
10	11	59 33	20 33.3	10	9	7 18	20 35.9
6	11	59 39	23 12.0	10	10	7 30	20 38.1
6	10	6 59 48	23 21.2	6	11 $\frac{1}{2}$	7 33	23 22.3
10	10 $\frac{1}{2}$	7 0 1	20 30.2	6	11	7 36	23 24.9
6	11	0 4	23 12.5	10	9 $\frac{1}{2}$	7 46	20 35.0
6	10 $\frac{1}{2}$	0 7	23 12.5	6	-	7 52	23 25.7
10	11	0 40	20 34.2	10	9	8 10	20 34.9
10	8	0 57	20 43.7	6	8	8 34	23 11.6
10	10	1 4	20 38.1	10	10 $\frac{1}{2}$	9 4	20 45.5
10	9	1 12	20 35.2	6	11	9 10	23 12.2
10	8	1 43	20 41.5	6	8 $\frac{1}{2}$	9 15	23 17.5†
6	8	1 58	23 19.6	6	11 $\frac{1}{2}$	9 15	23 11.6
6	10	1 59	23 23.7	6	10	9 21	23 12.4
6	10	2 6	23 22.9	6	9	9 41	23 13.6
6	10	2 29	23 13.4	10	10	10 3	20 35.4
6	11	2 30	23 12.5	10	10	10 9	20 37.7
10	10	2 36	20 42.6*	10	9 $\frac{1}{2}$	10 12	20 34.3
10	10	2 48	20 41.8	6	11	10 35	23 8.7
10	10 $\frac{1}{2}$	3 13	20 46.0	10	11	10 44	20 37.9
10	9	7 3 42	+20 41.9	10	11	7 10 52	+20 38.3

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
6	11	<sup>h. m. s.</sup> 7 11 28	+23 13.8	10	8	<sup>h. m. s.</sup> 7 20 52	+20 30.0
6	8	11 31	23 11.2	10	9	21 1	20 36.6
10	11	11 32	20 44.9	6	10½	21 20	23 16.9
6	11	11 38	23 18.0	10	9½	21 27	20 33.6
6	10	11 52	23 13.4	6	11	21 54	23 12.5
6	11	12 6	23 8.9	6	8	22 34	23 11.9
6	10	12 46	23 25.6	10	9	22 38	20 38.2
6	10	12 52	23 24.9	6	12½	22 50	23 10.7
10	12	12 52	20 46.1	10	9	22 51	20 45.5
6	7	13 29	23 24.2	6	9	23 26	23 13.1
10	8½	14 31	20 31.9	6	9½	23 54	23 14.8
10	9	14 41	20 48.3	10	11½	24 36	20 46.7
10	9	14 53	20 42.5	10	9½	24 50	20 46.6
6	11½	15 8	23 21.2	6	10	24 56	23 27.4
6	10	15 13	23 22.0	10	10	24 59	20 43.5
10	10	15 17	20 32.9	6	11½	25 2	23 24.3
6	11	15 19	23 22.3	6	12	25 6	23 22.2
6	9	15 27	23 14.9	6	11½	25 19	23 22.8
10	11	15 38	20 36.3	6	9½	25 26	23 25.3
10	10	15 48	20 36.6*	10	10½	25 54	20 29.6†
6	11	16 30	23 11.7	10	10	25 55	20 29.5†
6	8½	16 50	23 14.7	10	8	26 18	20 38.5
6	9	17 13	23 20.4	10	10½	26 30	20 48.7
10	11	17 37	20 34.4	10	9	26 39	20 32.5
10	10	17 45	20 30.7	6	9	27 15	23 21.0
6	9	18 14	23 16.9	6	10	27 16	23 13.0
6	8	18 17	23 27.3	6	10	27 23	23 13.6
6	9	18 20	23 24.3	6	10½	27 34	23 13.5
10	8	18 47	20 32.1	10	11	27 50	20 47.0
10	11	18 53	20 31.3	6	10½	28 26	23 25.3
6	9	19 2	23 15.8	6	12	28 33	23 26.4
6	8	19 28	23 10.2	6	12	28 34	23 24.8
10	11½	20 26	20 32.0	10	10½	28 42	20 34.8
6	11½	20 46	23 22.1*	10	9½	29 18	20 34.0
10	8	7 20 46	+20 30.6	6	11	7 29 36	+23 16.6

\* N. p. of double.

† Not same.

# APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		<small>h. m. s.</small>		<small>° ' "</small>			<small>h. m. s.</small>		<small>° ' "</small>
6	IO	7 29 36	+23	11.6	IO	II	7 37 43	+20	32.1
6	II $\frac{1}{2}$	29 38	23	12.8	6	II	37 51	23	23.3
6	II	29 55	23	14.0	6	IO	38 6	23	23.8
IO	8	30 0	20	43.3	IO	9 $\frac{1}{2}$	38 19	20	31.0
6	II	30 8	23	15.4	6	IO $\frac{1}{2}$	38 24	23	22.5
6	II $\frac{1}{2}$	30 14	23	15.0	IO	IO $\frac{1}{2}$	38 24	20	33.9
IO	9 $\frac{1}{2}$	30 36	20	35.6	6	IO $\frac{1}{2}$	38 51	23	9.8
IO	IO	30 43	20	43.9	IO	9	39 1	20	36.3
6	IO	31 8	23	5.9	IO	II	39 12	20	46.4
IO	II	31 41	20	33.2	6	II	39 29	23	27.0
6	II	32 3	23	23.5	6	9*	40 8	23	25.7
IO	IO	32 4	20	34.9	6	9	40 22	23	21.7
IO	IO $\frac{1}{2}$	32 26	20	33.6	6	9	40 24	23	10.9
6	IO $\frac{1}{2}$	32 34	23	21.9	IO	9	40 27	20	37.2
IO	IO $\frac{1}{2}$	32 40	20	33.0	IO	II	40 38	20	42.9
IO	9	33 3	20	29.7	IO	IO	40 40	20	33.2
6	IO	33 5	23	25.3	IO	9 $\frac{1}{2}$	40 48	20	44.7
6	II	33 14	23	22.0	6	9 $\frac{1}{2}$	41 1	23	11.9
IO	II	33 32	20	32.2	6	9 $\frac{1}{2}$	41 17	23	12.7
IO	9	33 49	20	45.5	IO	II	42 9	20	45.7
IO	9	34 8	20	48.3	6	8	42 32	23	19.5
6	II	34 16	23	11.2	6	IO $\frac{1}{2}$	42 34	23	21.5
6	IO $\frac{1}{2}$	34 18	23	9.7	6	IO	42 40	23	21.0
6	IO $\frac{1}{2}$	34 25	23	13.9	6	IO $\frac{1}{2}$	42 51	23	20.1
6	II	34 28	23	16.3	6	II $\frac{1}{2}$	43 3	23	21.3
IO	II	34 35	20	48.4	IO	IO	43 3	20	42.6
IO	IO	34 52	20	45.1	IO	9	43 32	20	40.4
IO	IO	35 9	20	47.8	6	II	44 5	23	12.2
6	9	35 39	23	15.9	6	II	44 17	23	27.4
IO	9	35 46	20	42.8	6	II $\frac{1}{2}$	44 50	23	26.1
6	7	36 0	23	21.8	6	II	45 20	23	9.9
6	II $\frac{1}{2}$	36 6	23	15.4	IO	IO	45 35	20	48.8
IO	9 $\frac{1}{2}$	36 10	20	46.1	6	II	45 40	23	12.8
6	II $\frac{1}{2}$	36 21	23	16.2	6	IO $\frac{1}{2}$	46 26	23	15.0*
IO	9 $\frac{1}{2}$	7 37 5	+20	32.1	6	II $\frac{1}{2}$	7 47 46	+23	24.5

\* S. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
6	11½	7 47 55	+23 24.2:	10	10½	7 55 5	+20 35.0
10	9½	48 44	20 41.4	10	9½	55 19	20 34.1
6	10½	49 2	23 10.9	10	9½	55 21	20 33.2
10	9½	49 2	20 44.9	6	10	55 31	23 9.9
10	* 9½	49 11	20 44.7	6	10½	55 42	23 15.9
6	8	49 15	23 27.6	6	8	55 46	23 14.4
6	8	49 45	23 25.2	10	11	56 0	20 30.2
6	11	49 54	23 25.1	6	12	56 40	23 9.7
6	8½	49 59	23 27.4	10	11	56 45	20 31.0
10	9	50 2	20 30.1	6	10½	56 56	23 12.7
10	9½	50 37	20 41.1	6	9	57 23	23 15.6
6	9	50 34	23 27.1	10	11	57 34	20 46.2
10	9	50 39	20 37.0	10	9	58 16	20 44.2
6	9	50 47	23 25.5	6	8	58 17	23 26.9
6	9	50 57	23 26.7	10	10½	58 23	20 47.1
10	10½	51 38	20 41.8	6	9½	58 28	23 25.4
6	10	51 43	23 10.0	10	10½	58 37	20 45.6
10	9½	51 48	20 46.1	6	9½	58 42	23 22.7
10	11	51 54	20 35.7	6	10	59 12	23 20.6
6	10½	51 55	23 13.1	6	10	59 19	23 23.8
10	11	51 56	20 45.7	10	9	59 22	20 43.9
6	11	52 18	23 15.8	6	9	59 23	23 24.2
6	9	52 18	23 12.6	10	8½	59 55	20 43.0
10	10	52 36	20 48.9	10	10½	7 59 55	20 45.9
10	10	53 14	20 49.6	10	10	8 0 0	20 40.9
6	10	53 18	23 12.1	10	9½	0 9	20 42.6
6	11	53 30	23 13.4	6	11	0 42	23 26.2
6	11	53 34	23 11.3	6	10	0 50	23 26.2
6	11½	53 45	23 13.0	10	9½	1 13	20 47.8
10	10½	53 48	20 48.8	6	11	1 19	23 26.9
10	10	53 54	20 42.3*	6	8	1 34	23 29.9
10	11	54 0	20 46.5	10	10	1 42	20 47.5
6	8	54 29	23 30.1	10	9½	1 58	20 41.2
6	10½	54 32	23 25.6	10	10	2 3	20 44.3
6	8½	7 54 54	+23 29.5	6	10½	8 2 11	+23 14.1

\* L. of double.



## APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
10	10	<sup>h. m. s.</sup> 8 2 33	+20 36.1	10	9½	<sup>h. m. s.</sup> 8 11 3	+20 39.3
6	8	2 36	23 27.6	10	8	11 3	20 48.1
6	12	3 3	23 10.8	6	10½	11 14	23 13.9
6	12	3 4	23 10.3	6	11½	11 16	23 10.9
6	11	3 47	23 26.0	10	9½	11 32	20 47.9
6	8	4 0	23 25.9	10	10	11 44	20 44.1
6	10	4 4	23 20.4	6	11½	11 49	23 22.0
10	11	4 4	20 35.0	6	9	11 52	23 20.7
10	11½	4 33	20 44.2	6	11	12 15	23 22.4
10	11	4 34	20 38.6	10	10	12 33	20 29.9
10	11	4 46	20 43.6	10	10½	13 26	20 37.0
6	8	4 55	23 14.4	10	11½	13 29	20 34.2
10	11	4 56	20 44.0	10	10	13 42	20 30.8
10	11½	5 1	20 43.9	6	8	13 43	23 13.0
6	9	5 11	23 25.2	6	11½	13 50	23 10.1
6	8	5 18	23 26.1	6	11½	13 55	23 13.7
6	9	5 35	23 14.6	10	9½	14 6	20 40.2*
6	12	6 43	23 9.6	10	7½	14 22	20 29.7
6	11	6 47	23 15.8	10	11	15 27	20 34.4
10	10½	6 47	20 33.1	10	10	15 29	20 32.4
10	10	6 49	20 34.1	10	10	16 8	20 31.3
6	11	6 50	23 14.3	10	11	17 17	20 44.0
10	9½	7 10	20 44.0	10	10	17 29	20 35.3
10	9½	7 31	20 31.0	10	10	17 35	20 47.7
6	10	7 51	23 13.2	10	10	17 41	20 46.2
10	11	8 16	20 30.9	10	10	17 48	20 38.4*
10	11	8 17	20 30.0	10	11½	18 25	20 38.2
6	8	8 30	23 15.7	10	10½	18 31	20 38.4
10	11½	8 51	20 47.0	10	9	20 3	20 43.7
10	10	9 15	20 44.4	10	11	20 8	20 41.2
10	11	9 23	20 43.6	10	11	20 20	20 43.5
6	11	9 34	23 27.4	10	11	20 23	20 46.0
6	11	9 42	23 26.4	10	10	21 4	20 40.9
6	10	9 59	23 26.6	10	9½	21 20	20 49.0
6	12	8 10 39	+23 11.7	10	10	8 21 23	+20 40.7

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup>
10	11	8 21 34	+20 41.8	10	9½	8 34 58	+20 43.6
10	10½	21 40	20 40.5	10	10	35 5	20 42.8
10	10	22 20	20 40.4	10	11	35 12	20 41.8
10	12	23 37	20 30.3	10	9½	35 30	20 36.8
10	12	23 39	20 31.8	10	9½	35 50	20 44.6
10	11½	24 41	20 33.4	6	10	35 57	19 55.8†
10	9½	24 47	20 35.4	6	8	36 12	19 58.0
10	9½	25 2	20 45.7	10	10½	36 48	20 30.0
10	10	25 26	20 38.3*	10	10½	36 50	20 43.9
10	11½	25 53	20 44.2	10	10½	37 1	20 33.7
10	10½	26 7	20 45.4	6	9	37 14	20 9.7
10	10	27 6	20 37.5	6	11	37 23	19 53.8
10	9	27 25	20 41.8	6	10	37 26	20 6.5
10	8½	27 41	20 40.3*	6	9	38 12	20 11.3
10	8	28 56	20 31.9	6	12	38 23	20 10.2
6	11	30 13	20 6.2	6	11½	38 57	20 5.9
6	10	30 22	19 56.8	6	11	39 1	19 51.1
10	9	30 27	20 38.4	6	9	39 51	20 11.5
6	9½	30 49	20 0.1	6	9½	40 0	20 9.0
10	9	31 20	20 41.1	6	11½	40 41	19 52.4
10	9½	31 44	20 38.0	6	10½	40 47	19 56.9
6	11	32 6	20 5.6	6	9	41 7	20 10.8
6	11	32 10	20 4.3	6	10½	41 58	19 52.1
10	9½	33 6	20 45.4	6	9½	42 4	19 58.5
6	11	33 11	19 52.6	6	10	42 16	19 54.6
6	11	33 13	19 50.4	10	10	43 15	20 38.2
10	8½	33 15	20 41.4	6	10½	43 55	20 1.7
6	11	33 16	19 55.4	6	10	44 0	20 2.4
6	8	33 30	19 56.5	6	9	44 13	20 4.0
10	11½	33 38	20 42.2	6	10½	44 15	20 1.7
10	10½	33 50	20 48.2	10	10	44 17	20 30.5†
6	10	34 28	20 7.7	10	12	44 44	20 29.8
6	8	34 30	19 58.3	10	10½	45 34	20 36.1
10	10	34 34	20 46.2	6	11½	45 48	20 6.7
6	11	8 34 35	+20 3.7	10	10½	8 45 53	+20 44.9

• • (4).

† N. of double.

† p. of double.

## APPROXIMATE MEAN PLACES OF STARS.

Days Obs.	Mag.	$\alpha$ .	$\delta$ .	Days Obs.	Mag.	$\alpha$ .	$\delta$ .
10	10	<sup>h. m. s.</sup> 8 45 56	+20 31.2	10	11	<sup>h. m. s.</sup> 8 52 26	+20 43.8
6	9	46 43	19 55.4	6	11½	52 30	20 4.0
6	9½	46 53	20 6.1	10	12	53 5	20 42.6
6	9	46 53	20 7.1	6	10	53 12	19 50.9
6	9	46 55	19 56.2	6	9	53 13	19 55.2
6	9	47 5	20 5.7	6	9	53 28	19 55.6
10	11	47 29	20 34.2	6	10	54 13	20 4.5
10	11½	47 30	20 35.3	6	10½	54 21	20 9.8
6	12	48 9	20 0.0	10	9½	54 33	20 38.3
6	8	48 33	20 7.8	10	11	54 58	20 38.3
6	11½	48 37	19 53.8	10	9	55 3	20 41.5
10	11	48 38	20 37.3	10	9½	55 21	20 44.7
10	10½	48 48	20 34.6	10	10	55 26	20 36.6
10	9	50 5	20 45.8	6	10½	55 40	19 58.6*
6	11	50 8	20 1.6	6	8½	55 50	19 58.4*
6	8	50 35	20 9.2	10	11	56 39	20 35.1
6	10	50 37	19 57.2	10	11	56 39	20 34.0
10	9	50 52	20 40.8*	10	11	57 2	20 41.2
10	11½	50 53	20 31.1	10	10	57 20	20 37.2
6	9	51 1	19 58.3*	6	9	57 51	20 3.5
10	9½	51 5	20 39.8	10	10	58 19	20 33.0
6	9	51 13	19 52.5	10	9	58 22	20 50.3
10	11	51 22	20 32.3	10	10	58 46	20 46.8
10	11	51 26	20 32.7	10	9½	59 39	20 30.5
10	9½	52 15	20 41.5	10	9½	8 59 48	20 41.2
6	9½	8 52 17	+20 7.9	10	10	9 0 4	+20 37.2

\* (4).

# APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

## 850 STARS NEAR THE ECLIPTIC,

OBSERVED IN APRIL, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
I	II	<sup>h. m. s.</sup> 8 58 14	+13. 34.9	I	9½	<sup>h. m. s.</sup> 9 8 56	+13. 46.0
I	9	58 22	13 39.5*	I	10½	9 31	13 30.0
I	10	58 29	13 33.6	I	10	9 36	13 33.4
I	9½	8 58 45	13 41.5	I	9	9 49	13 37.8
I	11½	9 10 0	13 33.9	I	11½	10 29	13 43.4
I	11	0 08	13 34.8	I	9½	11 24	13 42.2
I	9½	0 36	13 41.8	I	9½	12 59	13 43.5
I	9½	0 46	13 41.6	I	11½	13 5	13 41.2
I	10½	1 6	13 46.3	I	10½	13 38	13 41.8
I	10½	1 8	13 48.0	I	10	14 19	13 44.2
I	10	2 15	13 33.7	I	10½	14 28	13 36.4
I	9½	2 21	13 50.9	I	9½	14 38	13 34.1
I	9½	2 23	13 48.4	I	9½	15 5	13 43.7
I	10	3 55	13 43.3	I	10	16 4	13 42.2
I	11	4 0	13 36.4	I	10½	16 26	13 41.7
I	11½	4 5	13 35.7	I	9½	16 26	13 45.6
I	12	4 15	13 35.8	I	10	16 32	13 42.2
I	9	5 15	13 34.7	I	10½	16 33	13 44.6
I	11½	5 34	13 41.4	I	9½	17 42	13 32.3
I	8½	5 43	13 44.9	I	9½	17 47	13 41.8
I	11	6 12	13 33.7	I	10	17 51	13 33.5
I	9½	6 25	13 37.2	I	9	17 57	13 37.1*
I	9	6 38	13 33.9	I	10	18 5	13 35.0
I	9½	6 48	13 29.9	I	10	18 10	13 33.9
I	9½	6 49	13 30.1	I	11	19 37	13 42.9
I	9½	7 35	13 48.3	I	9½	19 50	13 40.4*
I	10	7 52	13 43.1	I	9	19 56	13 31.1
I	9	8 14	13 33.5	I	11½	21 11	13 31.3
I	9½	8 31	13 43.1	I	11½	21 12	13 29.9
•	9½	9 8 43	+13 46.1	I	8	9 22 7	+13 29.6

## APPROXIMATE MEAN PLACES OF STARS,

Days Obs.	Mag.	$\alpha$ .			$\delta$ .	Days Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
I	10	9 22 9			+13 36.2	I	10	9 39 0			+13 44.8
I	7	22 15			13 35.7	I	8½	39 18			13 40.6
I	9½	22 22			13 31.1	I	11	39 32			13 41.5
I	7	23 10			13 31.0	I	10	39 37			13 31.7
I	10½	23 18			13 30.6	I	10	42 1			13 34.9
I	11	23 21			13 31.0	I	10	42 4			13 45.8
I	11	24 9			13 47.3	I	10½	42 45			13 47.8
I	11	24 45			13 39.9	I	10	43 30			13 32.1
I	10½	24 58			13 44.3	I	10	43 39			13 36.4
I	11	25 23			13 41.6	I	10	43 41			13 33.0
I	10½	25 29			13 35.3	I	10½	43 53			13 33.2
I	9½	25 37			13 35.2	I	12	45 2			13 45.7
I	11	28 38			13 30.4	I	12	45 6			13 45.9
I	11	28 53			13 40.5	I	9½	45 39			13 36.5
I	10	29 4			13 34.1	I	11	45 51			13 32.2
I	10	29 17			13 33.5	I	10	46 10			13 35.3
I	9½	30 6			13 46.9	I	9	46 47			13 42.2
I	9½	30 8			13 43.6	I	9	47 33			13 44.5
I	10	30 26			13 42.2	I	9	48 11			13 31.6
I	10	30 29			13 44.7	I	11½	48 24			13 36.8
I	9	31 40			13 42.4	I	9½	48 31			13 29.6
I	9	31 40			13 45.3	I	11	49 30			13 32.5
I	9½	32 22			13 40.3	I	10½	49 51			13 33.3
I	11	33 18			13 37.9	I	9	50 17			13 31.7
I	10½	34 15			13 31.4	I	10½	50 40			13 33.7
I	11	35 7			13 34.1	I	9½	51 3			13 34.9
I	10	35 18			13 41.0	I	9	51 34			13 37.8*
I	10½	35 23			13 35.3	I	9½	51 39			13 36.7*
I	11	35 29			13 36.4	I	9	52 5			13 42.8
I	10	36 23			13 44.5	8	9½	52 6			10 21.5
I	10½	36 41			13 31.5	8	11	52 7			10 12.5
I	10	36 55			13 33.9	8	10	52 28			10 9.6
I	10½	37 4			13 32.8	I	9	52 29			13 42.5
I	10	38 3			13 35.7	8	9½	53 2			10 23.9
I	9	9 38 50			+13 45.2	8	9	9 53 44			+10 19.8*

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
1	11	9 53 48	+13 35.6	3	11	10 1 57	+10 8.9
8	10	53 53	10 18.3	1	9	2 31	13 39.4
1	11	54 5	13 33.3	8	10	2 45	10 19.0
1	10	54 7	13 33.4	3	8½	2 59	9 58.6*
8	9½	54 32	10 24.1	1	10½	3 5	13 40.1
3	11	55 20	9 51.6	1	10½	3 9	13 41.2
3	11	55 20	9 50.9	1	10	3 14	13 31.3
8	9½	55 28	10 27.9	3	10	3 22	9 52.5
1	11	55 30	13 32.6	3	10½	3 32	10 3.2
1	10	35 49	13 34.0	8	10	3 36	10 18.6
8	10	55 39	10 19.9*	1	9	3 52	13 45.0
3	10	56 5	10 4.2	8	9½	3 54	10 28.0
8	10	56 6	10 10.2	3	11	4 26	9 51.8
8	10½	56 10	10 27.2	1	11	4 30	13 30.0
1	9½	56 52	13 31.4	1	11	4 33	13 31.4
8	8½	57 22	10 11.4	1	9½	4 47	13 41.1
3	11	57 24	10 6.9	1	9	5 4	13 29.3
8	9½	57 26	10 24.0	8	9	5 4	10 29.7
8	9½	57 29	10 26.5	8	9	5 13	10 21.5
8	9½	57 43	10 22.4*	1	9½	5 21	13 35.1
8	9½	58 2	10 26.0	8	11	5 21	10 22.8
1	11	58 22	13 42.8	1	9½	6 23	13 43.1
3	9½	58 43	9 53.1	8	10½	6 33	10 25.7
8	11	59 9	10 19.5	1	9	6 45	13 46.0
8	10	59 11	10 13.9	8	9	6 51	10 21.6*
3	11½	59 33	10 3.9	1	9½	6 54	13 44.7
3	10½	59 43	10 6.5	1	9½	7 1	13 47.7
3	11½	9 59 43	10 8.1	3	10½	7 16	9 52.7
1	9	10 0 11	13 38.2*	3	10½	7 18	9 51.3
1	9	0 11	13 33.8	8	11	7 34	10 13.5
1	9	0 42	13 44.7	8	10	7 46	10 19.2
3	10	0 59	9 55.6	1	9½	7 55	13 44.1
1	11	1 4	13 34.5	1	9½	7 58	13 47.1
3	11	1 8	9 56.6	8	9½	8 19	10 27.3
8	9½	10 1 24	+13 39.7	3	11	10 8 20	+10 4.5

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
1	9½	10 8 21	+13 33.6	8	9	10 14 2	+10 27.9
1	9½	8 32	13 44.3	1	11	14 8	13 40.9
8	9½	8 33	10 26.9	1	10½	14 18	13 40.0
3	10½	8 38	10 5.2	1	9½	14 29	13 35.3
1	9½	8 58	13 30.9	8	8½	14 30	10 32.8
1	10½	9 0	13 33.7	1	9½	14 40	13 35.5
1	10	9 9	13 37.4	8	11	15 11	10 28.5
3	9	9 10	9 54.2	8	9½	15 17	10 19.5
3	11	9 26	9 52.1	8	10	15 37	10 29.9
8	10	9 36	10 32.1	8	11	16 54	10 22.2
8	9½	9 41	10 26.3	8	11½	16 56	10 26.3
1	11	10 10	13 39.9	8	8½	17 14	10 22.0*
8	10	10 13	10 11.0	8	9½	17 25	10 23.0
8	11	10 14	10 26.8	8	10½	18 49	10 17.5
3	8½	10 20	9 59.6	8	10½	18 55	10 23.5
8	9½	10 43	10 32.0	8	9½	20 51	10 14.5
3	10	10 51	10 0.7*	8	10	21 12	10 8.6
8	9½	11 1	10 33.2	8	11	21 47	10 13.9
8	9	11 30	10 28.5	8	11	23 6	10 15.1
8	10½	11 31	10 24.4	8	10½	23 11	10 12.7
8	11	11 34	10 22.6	8	11	23 20	10 15.9
1	9½	11 37	13 47.8	8	9½	24 42	10 10.2
8	11	11 52	10 26.3	8	10	24 43	10 21.8*
1	10½	12 2	13 38.0	8	9½	25 44	10 14.4
1	10	12 19	13 35.6	8	10	26 4	10 27.8
1	9½	12 55	13 34.6	8	11	26 42	10 26.7
1	10½	12 55	13 30.1	8	11	26 42	10 23.1
8	10	13 3	10 26.9	18	10	27 31	6 13.0
8	10½	13 4	10 30.9	18	10	27 39	6 7.2
3	11	13 15	9 57.1	18	9	27 47	6 15.8
1	9½	13 24	13 44.6	18	7	28 10	6 26.3
3	11	13 24	9 58.4	8	10	28 22	10 25.7
3	9	13 34	9 50.3	18	10	28 25	6 16.5
3	11	13 38	9 55.7	8	10½	28 26	10 24.6
8	10	10 13 43	+10 31.9	8	10½	10 29 35	+10 9.0

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
8	10 $\frac{1}{2}$	10 29 49	+10 8.3	8	8 $\frac{1}{2}$	10 37 9	+10 18.4†
18	9 $\frac{1}{2}$	29 50	6 21.5	18	11	38 4	6 21.9
18	10	29 53	6 26.2	18	10 $\frac{1}{2}$	38 20	6 22.4
18	8 $\frac{1}{2}$	30 43	6 9.2*	18	11	38 23	6 10.6
8	10	30 48	10 11.0	18	9 $\frac{1}{2}$	38 30	6 14.1
8	10	30 56	10 11.1	8	10 $\frac{1}{2}$	39 5	10 25.8
18	11	31 10	6 30.2	8	10 $\frac{1}{2}$	39 8	10 14.5
8	10	31 22	10 27.8	8	10 $\frac{1}{2}$	39 29	10 25.5
8	11	31 33	10 28.8	18	10	39 41	6 26.7
8	9 $\frac{1}{2}$	32 56	6 20.8	18	11	39 48	6 24.2
18	9 $\frac{1}{2}$	32 9	6 11.9	18	10 $\frac{1}{2}$	40 9	6 25.2
8	9 $\frac{1}{2}$	32 10	10 28.0	8	10 $\frac{1}{2}$	40 35	10 23.1
8	9 $\frac{1}{2}$	32 20	10 26.9	8	10	40 42	10 26.1
8	9	32 27	10 27.8	18	10	40 58	6 15.3
18	9	32 50	6 14.8	8	9 $\frac{1}{2}$	40 59	10 25.3
18	10	32 50	6 11.7	8	10	41 4	10 15.2
8	10	32 58	10 27.8	18	9 $\frac{1}{2}$	41 4	6 29.2
8	10 $\frac{1}{2}$	33 2	10 9.2	18	10 $\frac{1}{2}$	41 15	6 22.5
18	10	33 40	6 6.5	8	11	41 45	10 10.2
8	11	33 41	10 27.2	8	10	42 4	10 12.9
8	11	33 42	10 27.7	18	10	42 20	6 9.4
8	9 $\frac{1}{2}$	34 16	10 9.1	18	9	42 35	6 18.9
8	10	34 31	10 11.5	18	9	42 46	6 10.8
18	10	34 39	6 13.7	8	8 $\frac{1}{2}$	42 58	10 13.0
8	9 $\frac{1}{2}$	34 40	10 14.7	8	11	43 15	10 16.0
18	9 $\frac{1}{2}$	34 48	6 15.3	8	9 $\frac{1}{2}$	43 48	10 13.6
18	10 $\frac{1}{2}$	35 36	6 22.9	18	11	43 53	6 10.5
18	10	35 37	6 20.7†	18	10	44 15	6 28.0
8	9 $\frac{1}{2}$	35 51	10 28.3	18	10 $\frac{1}{2}$	44 50	6 13.4
8	11	35 54	10 14.2	18	10	45 0	6 12.7
8	8 $\frac{1}{2}$	36 29	10 9.6	18	11	45 37	6 22.4
8	9 $\frac{1}{2}$	36 49	10 21.8	18	8 $\frac{1}{2}$	46 6	6 17.6
8	10	37 1	10 8.4	18	9 $\frac{1}{2}$	46 12	6 14.6
18	10	37 1	6 24.8	18	11	46 29	6 13.8
18	9	10 37 6	+6 26.9*	18	10 $\frac{1}{2}$	10 46 34	+6 13.3

L. of double.

† (4)

• E



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
18	11	<sup>h. m. s.</sup> 10 46 46	+6 16.1	18	11	<sup>h. m. s.</sup> 10 58 51	+6 22.9
18	9½	47 28	6 20.3	18	11	59 12	6 12.5
18	10	47 52	6 12.4	18	10½	59 35	6 13.8
18	11	48 37	6 27.8	18	9	10 59 55	6 12.9
18	10½	48 54	6 23.8	18	10½	11 0 8	6 25.1
18	9½	49 33	6 15.3	18	9½	1 20	6 28.6
18	10½	49 55	6 24.2	18	11½	1 26	6 23.7
18	10	50 12	6 16.3	18	11	2 5	6 24.6
8	10	50 54	10 12.1	18	9½	2 15	6 24.4
8	9½	51 16	10 15.0	18	10	2 15	6 17.4
18	8½	51 25	6 19.4	18	9	2 18	6 28.8
8	11	52 4	10 15.1	18	11	3 37	6 12.1
8	11	52 9	10 9.0	18	9½	4 14	6 20.7*
8	11	52 26	10 18.5	18	10	4 25	6 19.8*
8	9½	52 48	10 26.0	18	9	4 58	6 14.2
18	10	52 51	6 23.2	18	9½	5 55	6 10.6
8	10	53 3	10 27.6	18	10	6 50	6 12.7
18	11	53 9	6 14.1	18	9	7 8	6 25.1
18	10½	53 17	6 15.3	18	10½	7 39	6 23.5
8	10	53 37	10 21.3	18	11	7 40	6 27.7
8	10½	54 19	10 18.0	18	11½	9 1	6 17.1
18	9½	54 28	6 15.5	18	10½	9 1	6 15.7
18	11½	54 36	6 15.7	18	10	9 21	6 22.6
18	11	54 49	6 12.8	18	10	9 26	6 16.4
8	9½	54 52	10 27.4	18	9	10 7	6 27.5
18	10	54 53	6 14.4	18	10	10 43	6 12.9
18	11	55 9	6 24.3	18	8	11 32	6 30.1
18	11	55 16	6 22.8	18	9	12 6	6 30.0
18	10	56 8	6 11.7	18	9½	12 18	6 17.3
18	10	56 27	6 17.4	18	8	12 21	6 28.3
18	11	56 53	6 9.6	18	9½	12 38	6 28.3
18	11	57 4	6 13.8	18	11	12 49	6 17.2
18	11	57 18	6 14.3	18	11	13 44	6 27.2
18	10½	57 36	6 12.3	18	11	14 54	6 19.7*
18	12	10 58 14	+6 25.7	18	9	11 15.31	+6 17.9*

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
18	9½	11 15 35	+6 17.7*	25	9½	11 26 53	+1 19.0
18	8	17 9	6 13.2	25	9	27 10	1 26.4
18	11½	17 22	6 15.9	18	10	27 53	6 13.6
18	11	17 27	6 14.9	18	8	28 0	6 18.9
18	11	18 41	6 20.8	18	10½	28 3	6 13.1
18	11	18 59	6 14.8	25	9½	28 11	1 19.3
18	11	19 4	6 17.2	18	10	28 17	6 14.1
18	11	19 7	6 14.7	25	9	28 18	1 15.1
18	11	19 7	6 11.9	25	9	28 29	1 10.3
18	11½	19 59	6 11.5	18	10	28 32	6 14.9
18	9½	20 17	6 9.8	18	10½	28 38	6 15.7
18	10	21 6	6 21.4	25	8	28 40	1 25.5
25	11	21 10	1 25.5	25	9½	29 42	1 21.9
25	10	21 23	1 27.7	26	10	30 37	0 32.3
18	10½	21 24	6 11.4	25	11	30 46	1 22.1
25	9½	21 31	1 29.6	18	11	30 49	6 24.0
18	11	21 47	6 12.6	25	10½	31 9	1 24.7
18	9	22 6	6 9.5	18	11	31 24	6 25.2
18	10	22 18	6 15.3	26	10	31 42	0 47.0
25	11	22 19	1 30.1	25	9½	31 47	1 20.6†
18	9½	22 46	6 11.5	26	10	31 49	0 46.7
25	10½	22 48	1 26.2	26	9	31 50	0 45.1
18	9½	23 16	6 13.1	25	9	31 55	1 13.9
18	10½	23 46	6 14.2	25	11½	32 3	1 26.7
25	9	23 49	1 18.5*	26	9	32 39	0 50.6
25	11	23 53	1 28.0	25	10	33 5	1 29.1
25	10	23 57	1 16.5	25	10	33 7	1 25.7
18	9	24 34	6 13.5	26	10	33 15	0 45.6
18	9½	25 3	6 23.4	25	10	33 17	1 25.0
18	10	25 29	6 15.0	18	9½	33 36	6 17.6
25	11½	25 33	1 18.6	18	9	33 41	6 24.9
18	9½	25 44	6 15.5	26	10	33 48	0 47.7
25	9½	26 12	1 22.0*	25	10	33 51	1 19.0
25	10½	26 21	1 22.1*	26	10½	33 56	0 43.6
18	9	11 26 22	+6 13.9	26	11	11 34 7	+0 45.9

\* (4).

† 10 Mag. s. p.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
18	8	<sup>h. m. s.</sup> 11 34 13	<sup>°</sup> +6 17.0	18	10	<sup>h. m. s.</sup> 11 39 38	<sup>°</sup> +6 11.0
25	10	34 27	1 12.5	18	10	39 38	6 9.7
26	9½	34 38	0 45.6	25	9	40 0	1 27.0
18	8	34 45	6 20.1*	18	9	40 1	6 13.7
26	8½	35 21	0 44.1	25	11½	40 1	1 24.8
25	11½	35 24	1 14.1	25	10	40 3	1 22.8
26	11	35 30	0 49.7	8	9½	40 12	0 5.0
25	10½	35 40	1 12.6	26	10	40 30	0 42.6*
25	10	35 40	1 17.2	26	10	40 35	0 42.5*
25	9½	35 42	+1 24.5	25	10	40 58	1 30.2
8	10	35 55	—0 1.7	25	11	41 5	+1 27.2
26	11	36 12	+0 46.5	8	11	41 11	—0 1.1
25	9	36 26	1 17.1	25	10	41 27	+1 25.9
26	11	36 33	0 38.1	25	10	41 47	1 25.2
25	10½	36 57	1 16.0	25	8½	41 49	1 26.7
26	8	37 5	0 44.8	25	9	42 6	1 28.5
8	9	37 20	+0 0.8	26	10	42 6	0 38.5
8	11	37 40	—0 3.3	26	9½	42 11	0 37.8
8	10½	37 41	+0 5.3	26	9½	42 21	0 34.6
8	10½	37 53	0 3.4	25	12	42 33	1 11.8:
25	9½	37 53	1 15.2	25	11½	43 14	+1 13.4
26	11	37 57	0 34.8	8	10	43 18	—0 7.2
8	10	38 6	0 1.7	25	10½	43 22	+1 9.0
25	11½	38 10	1 14.3	25	9½	43 23	1 16.8
25	9½	38 19	1 24.0	26	11	43 23	+0 34.4
8	9½	38 22	0 4.9	8	10½	43 35	—0 6.2
25	10½	38 31	1 23.2	26	10½	43 40	+0 38.9
26	8	38 36	0 39.6*	8	11	44 14	—0 11.6
25	9	38 51	+1 11.3	25	10	44 22	+1 22.9
8	9½	39 5	—0 7.0	25	11	44 22	1 24.7
8	9½	39 11	0 7.5	26	11	44 47	0 33.4
8	9½	39 23	—0 7.3	25	11	44 50	1 25.3
8	9½	39 33	+0 6.5	25	11	44 50	1 26.6
26	8½	39 36	0 40.5	8	11	45 18	0 11.4
18	9½	11 39 38	+6 19.8	8	9½	11 45 22	+0 4.3

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
25	10	11 45 26	+1 30.1	26	10 $\frac{1}{2}$	11 51 32	+0 50.7
8	10	45 50	-0 7.3	25	11	51 41	1 26.9
26	9	45 55	+0 31.2	26	8 $\frac{1}{2}$	51 41	0 40.2
26	10	46 2	0 46.0	8	9 $\frac{1}{2}$	51 49	0 6.3
25	10 $\frac{1}{2}$	46 10	1 26.0	26	10	52 15	0 33.4
25	12	46 12	1 27.1	25	10	52 25	1 29.1
25	10	46 33	1 26.9	26	11	52 31	0 33.8
26	9	46 37	+0 46.0	25	10	52 37	1 28.4
8	10	46 48	-0 7.7	26	11	53 0	0 45.4
8	11	46 49	-0 8.2	25	10	53 2	1 13.0
26	11	46 52	+0 47.7	26	11	53 12	0 34.7
25	11	47 3	1 28.3	25	10	53 14	1 13.3
26	10 $\frac{1}{2}$	47 10	+0 49.6	8	9 $\frac{1}{2}$	53 16	0 6.2
8	11	47 42	-0 4.2	8	11	53 23	0 8.3
8	9 $\frac{1}{2}$	47 55	-0 7.5	26	11	53 24	0 49.4
26	8	47 58	+0 45.7	26	11 $\frac{1}{2}$	53 29	+0 47.5
26	11 $\frac{1}{2}$	48 12	0 35.6	8	9 $\frac{1}{2}$	53 35	-0 6.7
8	8 $\frac{1}{2}$	48 26	0 2.1	25	8	53 59	+1 27.5
25	10 $\frac{1}{2}$	48 38	1 15.0	8	10	54 9	0 6.9
25	8	49 22	1 27.7	26	9	54 11	0 35.1
26	10 $\frac{1}{2}$	49 27	0 38.1	26	9 $\frac{1}{2}$	54 26	0 33.7
25	10 $\frac{1}{2}$	49 35	+1 21.6:	26	9 $\frac{1}{2}$	54 34	+0 32.1
8	9 $\frac{1}{2}$	49 38	-0 11.7	8	10	54 57	-0 4.7
8	9	49 47	-0 6.9	8	11	55 13	-0 9.1
8	10	49 49	+0 4.1	25	11	55 16	+1 10.3
26	11	49 49	0 38.7	25	10	55 32	1 16.5
26	8 $\frac{1}{2}$	49 58	0 39.4*	26	11	55 43	+0 42.8
25	11	50 15	1 13.0	8	10	55 56	-0 3.9
8	9 $\frac{1}{2}$	50 42	0 6.4	26	11 $\frac{1}{2}$	56 1	+0 43.0
26	9 $\frac{1}{2}$	50 42	0 37.8	25	11 $\frac{1}{2}$	56 3	1 18.4
25	10	50 46	+1 28.7	25	9	56 3	1 12.8
8	10	50 47	-0 3.7	25	9	56 6	1 11.4
8	9 $\frac{1}{2}$	51 7	0 11.9	26	10	56 6	0 45.3
8	10	51 9	-0 3.9	25	10	56 31	+1 11.5
25 •	11 $\frac{1}{2}$	11 51 31	+1 27.9	8	10 $\frac{1}{2}$	11 56 43	-0 10.9

Days Obs.	Mag.	$\alpha$ .	$\delta$ .	Days Obs.	Mag.	$\alpha$ .	$\delta$ .
25	II	<sup>h. m. s.</sup> II 56 57	<sup>° ' "</sup> +I 9.1	25	9	<sup>h. m. s.</sup> 12 1 30	<sup>° ' "</sup> +I 22.7
25	8	57 0	I 13.3	25	IO	I 57	I 27.1
26	IO½	57 4	0 32.2	8	II½	2 4	0 4.5
26	9	57 8	0 36.7	25	9½	2 23	+I 23.6
26	9	57 8	0 35.6	8	IO½	2 35	—0 4.9
8	IO	57 14	0 6.7	8	9½	2 38	+0 6.0
8	II	57 22	0 9.1	30	II	2 47	—3 29.8
8	II	57 34	0 4.4	25	IO½	3 7	+I 11.0
25	9	57 35	I 26.7	30	II	3 8	—3 29.0
8	IO½	57 41	0 1.3	25	9½	3 11	+I 22.1
26	IO	57 44	+0 46.1	8	II	3 16	0 9.4
8	8½	57 49	—0 8.2	25	9½	3 16	+I 14.9
25	12	58 2	+I 27.2	30	9	3 32	—3 8.6
25	9½	58 7	I 28.5	30	II	3 46	—3 12.3
25	IO	58 8	I 21.6	26	9½	4 6	+0 38.2
26	IO	58 12	0 47.8	25	II	4 20	+I 12.7
26	8	58 27	0 50.7	8	IO	4 22	—0 1.5
26	8½	58 43	0 43.6	8	II	4 28	—0 3.4
26	IO½	59 4	0 34.1	26	II	4 31	+0 37.5
25	II	59 7	+I 28.8	26	8	4 35	0 42.4*
8	8½	59 10	—0 6.2	8	IO½	4 39	+0 1.8
8	8½	59 11	+0 1.0*	30	9	4 45	—3 25.4
25	IO½	59 28	I 28.3	8	IO½	4 55	—0 3.4
26	IO½	59 47	0 40.7*	26	IO	4 58	+0 44.4
25	II½	II 59 49	I 27.2	30	II	4 58	—3 24.7
26	IO	12 0 0	0 45.5	30	IO	5 3	3 23.4
8	9½	0 16	0 10.6	8	IO½	5 7	—0 4.6
8	IO	0 34	0 12.7	25	IO	5 8	+I 23.2
8	9½	0 36	0 13.0	25	IO½	5 29	I 24.0
26	9	0 40	0 43.9	8	IO	5 45	0 8.2
26	8	0 47	0 50.9	26	II	5 59	0 47.0
25	IO½	0 51	I 17.7	26	II½	6 8	0 44.8
25	II	I 1	I 17.2	8	8	6 13	+0 11.6
25	9	I 3	I 24.9	8	IO	6 27	—0 1.0
8	9	12 I 12	+0 4.4	26	IO	12 6 28	+0 47.7

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
26	9	12 6 30	+0 42.6	26	9	12 11 11	+0 50.7
25	12	6 39	1 26.9	25	8	11 17	1 23.1
26	10	6 41	0 44.3	25	9½	11 19	+1 19.4
25	11½	6 51	1 27.1	30	11	11 35	-3 11.0
26	10½	6 54	+0 45.3	25	11	11 37	+1 31.0
8	10	7 15	-0 1.2	8	10	11 42	+0 9.2
8	8½	7 19	+0 10.6	30	11	12 0	-3 13.6
25	10	7 30	+1 10.3	26	9½	12 13	+0 53.2
30	9	7 40	-3 27.3	26	10	12 25	+0 53.2
26	9	7 43	+0 34.0	30	9½	12 27	-3 22.2
25	11	8 0	1 26.9	30	10	12 31	-3 16.6
25	11½	8 3	+1 27.7	8	10½	12 40	+0 1.4
30	10½	8 19	-3 21.7	30	10	12 43	-3 16.9
8	10	8 26	0 8.9	25	9	12 45	+1 25.0
30	10	8 30	3 19.2*	8	10½	12 50	0 1.4
30	9	8 30	-3 12.3	8	11	12 51	0 7.3
26	11	8 35	+0 48.8	26	9½	12 53	0 34.2
25	10	8 59	+1 33.0	25	9½	12 54	1 17.3
30	10	9 5	-3 13.7	26	9½	12 54	0 32.9
8	9½	9 14	-0 7.2	26	11½	12 56	+0 36.0
8	9½	9 20	+0 7.8	30	9½	13 1	-3 16.5
8	10½	9 37	0 7.3	26	9	13 13	+0 36.6
8	11	9 38	0 9.6	25	11	13 24	+1 26.2
25	9½	9 39	1 23.8	30	9	13 25	-3 14.6
26	9½	9 46	0 48.5	25	9½	13 37	+1 12.1
26	9½	9 50	0 46.5	30	10½	13 39	-3 20.5
26	10	10 5	+0 47.4	25	10	13 55	+1 31.0
30	10	10 21	-3 12.9	26	11	14 8	0 33.9
25	10	10 26	+1 19.8*	25	11	14 11	1 31.6
8	10½	10 27	-0 1.8	26	10	14 16	0 49.4
30	10	10 28	-3 16.9	8	9½	14 27	+0 4.3
25	11	10 36	+1 13.3	8	10½	14 29	-0 7.5
30	10½	10 40	-3 18.2	25	9½	14 37	+1 13.5
25	11½	10 51	+1 14.8	8	10	14 45	-0 4.4
26	9	12 11 10	+0 43.4	8	10	12 14 48	-0 8.0

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>°</sup>			<sup>h. m. s.</sup>	<sup>°</sup>
25	11½	12 14 48	+1 12.3	26	10	12 19 21	+0 40.3†
26	9½	14 51	+0 46.2	30	9½	19 40	-3 24.2
30	10½	14 51	-3 17.5	8	11	20 24	+0 6.0
30	10	15 36	3 24.3	8	10½	20 32	-0 8.2
8	8½	15 39	-0 5.2	30	10½	20 37	3 25.4
26	10	15 39	+0 33.3	30	10	20 39	3 14.1
25	11½	15 40	+1 26.8	8	10	20 58	0 2.1
30	9	15 44	-3 8.2	30	11	20 59	3 17.2
25	10	15 51	+1 17.7	8	9½	21 21	0 4.4
30	10½	16 6	-3 25.7	30	11	21 52	3 13.8
26	11	16 22	+0 35.1	30	11°	21 52	-3 13.2
26	10½	16 24	+0 37.0	8	9½	22 2	+0 10.6
30	10	16 33	-3 24.5	30	10½	22 4	-3 14.5
30	11	16 36	-3 14.0	8	10	22 13	-0 2.8
8	11	16 39	+0 9.8	8	9½	22 27	+0 1.2
8	10	16 40	0 8.0	30	9½	22 36	-3 13.0
25	9	16 55	1 16.2*	8	11	23 24	+0 4.9
25	10	16 56	+1 12.5	30	10½	23 38	-3 15.2
8	10½	16 57	-0 1.4	30	10½	23 50	-3 27.5
26	9½	17 0	+0 37.1	8	10	23 55	+0 8.8
30	11	17 13	-3 23.3	8	10½	24 24	-0 0.8
26	10½	17 14	+0 47.9	30	9½	24 59	3 12.3
30	9	17 22	-3 12.6	8	11	25 1	0 5.8
8	9½	17 25	+0 6.4	30	11	25 19	3 18.7
25	8	17 25	1 14.0	30	11½	25 21	-3 17.2
8	11	17 40	+0 7.5	8	10	25 58	+0 8.9
30	9½	18 10	-3 24.3	8	9½	26 25	-0 5.3
30	10	18 21	3 25.3	30	10	26 50	3 21.8†
30	11	18 26	3 29.9::	30	10	27 8	3 18.3
8	10½	18 52	0 5.9	30	8	27 39	-3 14.2
8	9	19 0	-0 5.7	8	10	27 46	+0 5.4
26	10	19 5	+0 39.9†	30	9	27 59	-3 13.2
25	10	19 8	+1 19.2	30	12	29 2	3 24.5
30	9	19 9	-3 19.7†	30	9	29 25	-3 15.2
30	10	12 19 12	-3 30.3	8	10	12 29 38	+0 9.9

\* N. of double.

† (4).

Days Obs.	Mag.	$\alpha$ .	$\delta$ °	Days Obs.	Mag.	$\alpha$ .	$\delta$ °
8	II	<sup>h. m. s.</sup> 12 29 45	+0 11.4	25	10½	<sup>h. m. s.</sup> 14 10 59	-15 13.8
8	II	29 54	+0 5.2	25	10	11 43	15 13.5
30	8	30 35	-3 8.6	25	10	12 47	15 15.1
30	10	30 52	3 18.9	25	10	12 48	15 10.2
30	10	31 1	3 30.3	25	10	12 59	15 11.2
30	10	31 5	3 33.0	25	10½	13 56	15 17.0
30	II	31 33	3 11.1	25	10½	14 22	15 26.0
30	10	31 46	3 10.1	25	9½	15 14	15 13.2
30	10½	32 3	3 30.1	25	8	15 36	15 17.1§
30	9	32 35	3 12.9	25	10	16 42	15 23.7
30	8½	33 44	3 28.0	25	10½	16 54	15 22.9
30	10	34 49	3 23.5	25	10½	21 25	15 26.9
30	10	35 0	3 21.7*	25	10½	21 44	15 23.4
30	II	35 4	3 16.3	25	10	21 52	15 23.4
30	II½	35 6	3 15.4	25	9	22 12	15 11.7
30	10½	35 24	3 25.5	25	10	23 1	15 11.3
30	II	36 52	3 28.6	25	10	23 12	15 12.4
30	9½	37 27	3 30.0	25	10½	24 0	15 12.5
30	9	37 32	3 17.8	25	10	24 24	15 14.6
30	9½	12 37 47	3 18.3	25	9½	24 38	15 8.0
25	II	14 9 2	15 10.8†	25	10	25 44	15 17.2
25	II	9 41	15 27.0	25	9½	25 55	15 16.1
25	II	9 55	15 10.5	25	10	14 26 35	-15 14.6
25	10	14 10 54	-15 13.3‡				

\* (4).

† S. of double.

‡ M. C.

§ 4 M. C.



APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

404 STARS NEAR THE ECLIPTIC,

OBSERVED IN MAY, 1851, AT MAERKEE.

Days. Obs.	Mag.	$\alpha$			$\delta$	Days. Obs.	Mag.	$\alpha$			$\delta$
		$^{\text{h}}$	$^{\text{m}}$	$^{\text{s}}$	$^{\circ}$			$^{\text{h}}$	$^{\text{m}}$	$^{\text{s}}$	$^{\circ}$
3	II	12	5	5	-3 4.9	3	II	12	20	8	-3 9.3
3	II $\frac{1}{2}$		6	6	2 54.2	3	9	21	5		3 9.7
3	IO		6	12	2 59.9	3	IO	21	41		3 7.4
3	IO $\frac{1}{2}$		7	31	3 7.1	3	IO	22	0		3 6.5
3	IO		7	53	3 4.2	3	9	22	31		2 57.1
3	8		8	38	2 53.9	3	IO $\frac{1}{2}$	22	43		2 57.9
3	9		8	40	2 51.7	3	IO $\frac{1}{2}$	22	45		2 56.4
3	9 $\frac{1}{2}$		9	13	2 57.0	3	7 $\frac{1}{2}$	24	0		2 53.0
3	IO $\frac{1}{2}$		10	11	3 6.8	3	II	24	4		2 58.9
3	IO		10	57	2 56.6	3	II $\frac{1}{2}$	24	11		2 53.8
3	9 $\frac{1}{2}$		11	29	2 57.2	3	II	24	58		2 51.5
3	IO $\frac{1}{2}$		11	40	2 54.0	3	II	25	13		2 53.4
3	IO		11	58	2 56.3	3	II $\frac{1}{2}$	26	6		3 2.8
3	IO		12	0	2 54.8*	3	IO	26	26		3 4.0
3	9		13	9	3 9.5	3	8	26	33		2 51.7
3	II $\frac{1}{2}$		14	9	3 3.5	3	IO $\frac{1}{2}$	27	27		2 55.8
3	8		14	31	2 56.7	3	Neb.	27	47		2 58.0*
3	IO		15	14	3 1.2*	3	IO $\frac{1}{2}$	27	53		2 59.1
3	IO $\frac{1}{2}$		15	34	3 1.5*	3	IO $\frac{1}{2}$	29	34		2 50.2
3	9		15	44	3 8.4	3	IO	30	9		2 51.0
3	IO		16	29	2 52.7	3	8	30	18		3 3.4
3	IO		17	10	3 5.4	3	II $\frac{1}{2}$	31	13		2 51.6
3	IO		17	27	2 55.7	3	IO	31	37		2 51.1
3	IO		17	31	3 2.6	3	IO	32	18		3 5.5
3	II		18	59	2 58.6	3	II	32	32		2 52.5
3	8		18	59	3 7.1	3	IO $\frac{1}{2}$	32	33		2 58.5
3	8		19	33	2 48.9	3	9 $\frac{1}{2}$	32	36		2 56.0
3	II		19	44	3 0.9	3	9	32	49		2 51.8
3	9		20	0	2 56.8	3	9 $\frac{1}{2}$	33	35		2 58.3
3	9	12	20	7	-3 8.8	3	II $\frac{1}{2}$	12	34	56	-2 54.4.

Days. Obs.	Mag.	$\alpha.$		$\delta.$	Days. Obs.	Mag.	$\alpha.$		$\delta.$
		<small>h. m. s.</small>		<small>° ' "</small>			<small>h. m. s.</small>		<small>° ' "</small>
3	II	12 35 3	—2	53.3	3	10½	12 52 43	—2	56.8
3	11½	35 20	2	52.2	3	II	52 47	3	6.1
3	10	35 44	2	52.3	3	10½	52 49	2	58.0
3	10	36 37	2	53.9	3	10	53 3	3	7.3
3	9½	36 45	2	55.9	3	9	53 54	2	51.6
3	9	36 48	2	58.4	3	II	54 7	2	57.8
3	9	37 57	2	59.2	3	12	54 9	2	58.0
3	II	38 8	2	59.0	3	10	54 18	3	11.0
3	12	38 43	2	58.2	3	10	54 31	3	11.3
3	9½	* 38 59	2	56.9	3	10	55 37	3	3.5
3	II	40 30	3	2.2	3	10	55 48	3	2.5
3	II	40 38	3	6.2	3	8	55 51	3	8.5
3	10	40 41	3	1.5	3	10	56 40	2	53.0
3	11	40 45	3	2.8	3	II	56 47	2	52.5
3	9	41 6	3	9.5	3	II	57 39	3	3.9
3	9½	41 51	3	11.3	3	II	57 42	3	7.4
3	9½	42 24	3	12.7	3	II	58 24	2	55.3
3	II	43 0	2	51.9	3	10	59 6	3	3.6
3	10½	43 3	2	50.3	3	10	59 29	3	3.6*
3	9½	43 45	3	4.9	3	9	12 59 58	2	54.9
3	9½	43 55	2	51.5	3	9½	13 0 2	2	51.9
3	11½	44 42	3	6.1	3	II	13 1 3	2	57.9
3	9½	44 42	3	8.1	8	10½	14 34 4	17	54.2
3	10½	45 23	3	6.4	8	10½	34 33	18	6.5
3	10	45 56	3	7.7	8	II	35 22	17	53.8
3	12	46 20	3	5.2	8	10	35 53	17	55.7
3	10	46 56	3	1.6	8	II	36 2	18	1.3
3	9½	47 17	3	5.1	8	11½	36 15	17	50.5
3	9½	47 47	3	2.5	8	10½	36 51	17	52.0
3	10	47 56	2	56.9	8	10½	37 23	17	48.6
3	12	50 51	3	4.6	8	10	37 30	18	3.3
3	8	51 11	3	7.4	8	10	37 41	17	50.7
3	II	51 48	3	6.7	8	10½	38 55	17	52.3
3	9½	51 51	3	7.4	8	II	38 57	17	51.9
• 3	9½	12 52 38	—3	4.5	8	• 9	14 38 58	—17	51.1

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
8	9½	14 40 7	17 54.6	8	10	14 58 31	18 4.8
8	11	40 29	17 52.3	8	11	58 31	17 49.9
8	11½	41 32	18 3.7	8	11	58 41	17 51.7
8	8	42 9	18 0.4	8	11	14 59 58	18 6.3
8	9½	42 34	18 6.2	8	9	15 0 2	17 53.1
8	10½	42 50	18 5.3	8	10½	0 26	18 5.4
8	10	43 3	18 3.5	8	10½	0 46	18 10.5
8	8½	43 8	17 53.4*	8	8½	1 2	17 49.3
8	10	44 12	18 1.8	8	10	1 38	18 7.1
8	9	44 41	18 2.5	8	10	1 55	18 2.3
8	10	45 21	18 8.6	8	8½	2 29	17 59.9
8	11½	46 12	17 51.2	8	11½	3 10	17 57.2
8	11	47 12	17 56.6	8	11½	3 30	17 55.5
8	11	47 59	18 8.7	8	9½	4 19	18 1.2
8	11	48 3	18 0.1	8	8½	5 20	17 55.5
8	10½	48 19	18 2.2	8	9½	5 23	18 5.7
8	10½	48 42	17 49.8	8	10	7 25	18 9.4
8	10	48 47	17 52.7	8	11½	7 38	17 54.9
8	11	48 51	17 55.5	8	8	7 49	18 4.1
8	9½	50 10	18 10.7	8	11	9 8	17 50.7
8	9½	50 11	17 57.9†	8	11	9 31	17 50.4
8	9½	50 19	18 8.2	8	10½	9 44	17 50.8
8	11	51 55	18 4.9	8	10	9 49	17 57.3
8	11	51 57	18 10.6	8	9	10 10	17 50.0
8	9½	52 14	17 50.8	8	9	10 59	17 46.9
8	11	53 49	18 4.2	8	9½	11 26	17 56.3
8	10	54 0	18 2.8	8	9½	11 58	17 59.1
8	9	54 17	17 50.9	8	9	12 25	17 55.4
8	10	55 28	18 7.6	8	8½	12 32	18 6.7
8	10½	56 1	18 2.6	8	10½	14 8	18 3.7
8	9½	56 27	17 59.8†	8	10½	14 10	17 54.6
8	10½	56 44	18 3.2	8	9½	14 51	18 9.4
8	9	56 52	18 2.3	8	9	15 43	17 54.0
8	10	57 57	18 8.8	8	9	16 19	17 50.4
8	11½	14 58 11	18 2.6	8	11½	15 16 26	18 0.00

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		$h. m. s.$						$h. m. s.$			
8	10	15 16 26	—	18	4.8*	22	8½	15 35 32	—	21	53.7
8	10	17 23		18	8.3	22	10	35 37		21	57.0
8	9½	17 34		18	3.3	22	10½	35 48		21	52.9
8	11	18 26		18	0.0†	8	10	36 23		18	0.5†
8	11	18 39		18	0.4	22	10½	36 29		21	59.6
8	11	18 49		18	3.8	8	9½	36 41		17	59.8†
8	11	18 57		18	1.2‡	22	10	36 50		21	53.9
8	9½	19 1		18	3.6	22	10	36 55		21	58.8
8	8½	20 10		18	11.7	22	8	37 8		22	6.9
8	10½	* 20 21		18	7.1	22	11	37 57		21	54.7
8	10½	20 44		17	51.2	8	8½	38 36		17	59.9
8	8½	21 25		17	54.9	8	10	39 0		18	5.3
8	11	21 56		17	57.8	8	10½	39 10		17	53.3
8	11	22 1		17	52.9	22	10½	39 19		21	52.0
8	10	22 9		17	59.8	22	9	39 20		21	53.0
8	8½	23 25		17	58.1	22	10	39 26		21	59.3§
8	10½	23 36		17	50.8	8	8½	39 46		17	58.1
8	10½	24 6		18	7.8	8	10	40 5		17	56.5
8	10	25 31		17	57.8	22	11	41 3		22	9.9
8	11	25 52		18	1.8:	22	9½	41 30		21	48.1
8	10½	26 3		18	5.0:	22	10	41 33		21	51.9
8	10½	27 34		18	7.9	8	9½	42 0		18	0.0†
8	10½	27 40		18	8.2	8	9	42 1		17	49.6
8	10½	28 42		18	0.4	22	9	42 10		21	54.7
8	10	29 8		18	5.6	22	10	42 56		22	2.0
8	8½	29 57		17	57.0†	8	11½	43 4		17	55.3
8	10½	30 20		18	2.2	8	11½	43 40		17	56.3
8	10½	30 48		18	0.4	22	10½	44 12		21	53.4
8	11	32 51		18	5.2	22	10½	44 39		21	52.7
8	10	33 54		18	5.2	8	10	45 6		18	4.7
8	8½	34 3		18	7.3	22	11½	45 14		21	55.1
8	9½	34 35		17	51.6	22	11	45 17		21	54.3
8	10	34 55		18	6.6	22	8½	45 23		21	54.3
22	11	35 6		21	52.8	8	10	46 9		18	3.7
8	10	15 35.28	—	17	54.2	8	10½	15 46 15	—	17	56.7

\* N. p. of a close double.

† (4).

‡ Close double.

§ 4 s. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
22	8½	15 46 19	22 3.2	22	II	15 55 47	22 3.7
22	II	46 20	22 5.3	22	II	55 48	22 6.4
8	II	46 26	18 5.0	8	IO	55 55	17 58.4
22	II	46 27	22 10.2	8	II	56 18	18 8.7
22	II	46 39	22 6.7	22	8½	56 48	21 52.4
22	II	47 25	21 54.6	22	IO	57 48	22 10.7
8	9	47 26	17 48.8	22	IO	58 22	22 7.6
8	IO	47 33	17 53.9	22	8½	58 29	22 3.4
8	II½	47 42	17 54.8	22	IO½	58 47	22 4.4
8	8½	47 47	17 51.5	22	8½	15 59 36	22 0.1†
22	IO½	48 7	21 55.1	22	II	16 0 22	21 58.8
22	IO½	48 16	22 7.4	22	8½	1 5	22 0.5†
8	II½	48 48	17 50.0	22	9½	1 17	22 3.6
8	IO½	48 52	17 50.6	22	9½	1 32	21 56.7
22	8	49 9	22 6.6*	22	8½	1 36	21 49.8
8	7	49 42	18 10.9	22	II	2 41	22 10.8
8	9½	49 45	18 2.3	22	9½	3 13	21 53.3
22	IO½	50 25	22 6.1	22	II	3 19	22 7.0
22	9½	50 39	21 55.1	22	II	3 25	21 53.3
8	II	51 0	18 6.9†	22	9½	4 9	21 55.0
22	9	51 2	22 8.2	22	9	4 18	22 5.7
8	II½	51 7	17 56.6	22	9	5 4	22 3.1†
22	9½	51 41	21 52.8	22	II	6 25	21 53.9
22	IO½	52 26	21 54.2	21	II	6 44	22 7.1
8	II	52 30	18 1.5	22	8½	7 28	21 49.0†
22	IO	52 42	21 54.0	22	IO	7 35	21 53.3
22	II	52 42	21 53.6†	22	9	8 46	22 7.2
22	IO½	53 50	22 3.6	30	8	33 51	26 10.0
22	IO½	54 15	21 56.9	30	IO	34 26	26 8.3
8	8½	54 18	18 4.9	30	II½	34 59	26 11.3
22	IO½	54 23	21 55.1	30	IO	35 31	26 7.1
8	7½	54 40	17 50.8	30	IO	35 54	26 6.5
22	II	55 21	22 5.8	30	IO	36 12	26 5.3
22	II	55 28	22 6.7	30	9½	36 31	26 2.6
22	II	15 55 38	22 4.1	30	II	16 36 39	25 58.1

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>° ' "</sup>			<sup>h. m. s.</sup>	<sup>° ' "</sup>
30	9½	16 37 17	26 2.5*	30	9½	16 56 23	26 8.9
30	9	37 30	25 59.3	30	10	56 28	26 2.9*
30	9½	38 31	25 54.2	30	9½	57 10	26 14.4
30	10	39 11	26 5.4	30	11½	58 16	26 5.2
30	9½	39 11	25 49.2	30	9½	58 26	26 6.6
30	11½	40 39	25 59.9	30	11	58 42	26 5.5
30	11	41 1	25 58.0	30	9	16 59 49	26 13.2
30	11½	41 5	25 57.5	30	10	17 0 6	26 8.3
30	11	41 30	25 54.8	30	10	1 6	26 10.7
30	9½	*42 25	26 6.6	30	8	1 16	26 2.7†
30	10½	42 *42	25 54.6	30	9½	1 27	26 0.3*
30	9	43 2	25 54.7	30	11	2 19	26 0.8*
30	10	43 34	25 53.2	30	10½	3 40	26 6.7
30	10	44 0	25 57.5	30	9	4 1	25 58.8‡
30	9½	44 22	25 59.0	30	9½	4 2	25 55.1
30	10	44 50	25 58.9	30	9½	4 3	25 56.4
30	9½	45 4	26 2.8	30	10	5 9	26 7.7
30	8	45 34	26 9.7†	30	11½	5 24	26 9.7
30	10	46 11	26 13.4	30	8½	13 4	26 3.5†
30	9½	47 1	25 54.1	30	10½	13 30	25 59.7
30	10½	47 25	25 55.1	30	11	13 38	25 56.7
30	10	47 46	25 54.7	30	8½	14 45	26 4.4
30	9½	48 5	25 49.4	30	11	14 46	26 7.2
30	9½	48 42	26 10.0	30	10	15 9	26 8.8
30	8	49 12	26 7.0	30	9½	16 12	26 0.1
30	8	50 11	26 8.2†	30	9½	16 25	26 5.8
30	10	50 48	25 52.5	30	10	17 56	26 13.5
30	10	50 58	25 54.9	30	10½	18 55	25 57.7
30	11½	55 8	25 54.9	30	10½	28 38	26 10.1
30	11½	55 10	25 53.5	30	10	28 42	26 9.8
30	8½	55 19	26 2.9†	30	10	30 39	26 8.2
30	11	16 56 5	26 5.5	30	10	17 31 17	26 5.2

(4).

† M. C.

‡ 4 M. C.

Norma.—8th—Strong moonlight, and there appeared to be haze.

22nd.—Stopped by clouds.

• 30th.—The interruptions were caused by the eye-glass being dewed, and stopping to observe a few stars with the meridian circle.

# APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

## 132 STARS NEAR THE ECLIPTIC,

OBSERVED IN JUNE, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
26	8 $\frac{1}{2}$	h. m. s. 17 53 44	—24 3.7*	26	11	h. m. s. 18 7 36	—23 56.5
26	10	53 28	23 56.0	26	9 $\frac{1}{2}$	7 58	24 1.4*
26	9 $\frac{1}{2}$	54 29	23 56.9	26	9 $\frac{1}{2}$	8 20	23 56.5
26	10	55 4	24 5.5	26	10	9 33	23 55.7
26	8	55 22	24 9.7	26	11	10 10	24 5.1
26	10	56 46	23 54.9	26	10	10 10	23 55.5
26	10	57 12	24 4.7	26	10	10 19	24 3.7
26	8 $\frac{1}{2}$	57 19	24 10.0	26	9 $\frac{1}{2}$	11 10	24 9.9
26	10	58 31	23 55.2	26	9 $\frac{1}{2}$	11 32	23 53.6
26	10	58 38	24 0.8	26	9	11 42	24 0.0
26	10	58 58	24 4.8	26	10	11 57	23 54.5
26	9 $\frac{1}{2}$	59 24	24 9.8	26	10	13 6	23 54.6
26	10	17 59 54	24 10.8	26	10 $\frac{1}{2}$	13 19	24 9.5
26	7	18 0 11	23 59.4	26	10	13 30	24 6.6
26	9	0 30	23 56.7	26	9	14 11	24 5.3
26	10	0 34	23 56.4	26	10 $\frac{1}{2}$	15 11	23 54.2
26	9	2 30	24 5.1	26	10	15 27	24 10.8
26	10	2 34	23 54.2	26	10	16 41	24 7.9
26	8 $\frac{1}{2}$	2 34	24 1.0	26	11	17 35	23 55.8
26	8 $\frac{1}{2}$	2 54	24 7.7	26	9 $\frac{1}{2}$	18 0	24 6.1
26	9 $\frac{1}{2}$	3 51	23 54.5	26	10	18 5	24 7.6
26	10	4 4	23 53.7	26	8	20 6	23 56.7
26	10	4 41	23 58.1	26	9 $\frac{1}{2}$	20 14	23 58.6
26	11	4 56	24 8.3	26	8	20 23	23 55.6
26	9 $\frac{1}{2}$	4 59	24 12.0	26	10	20 25	23 56.8
26	8	5 55	23 56.5	26	8	21 29	23 58.8
26	8	6 12	23 59.9	26	9	22 34	24 6.4
26	10	6 12	24 8.5	26	9 $\frac{1}{2}$	22 50	23 59.2
26	9 $\frac{1}{2}$	6 29	24 8.1	26	9	23 5	23 54.2
26	9	18 7 34	—24 3.3	26	9	18 23 42	—23 58.9

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
26	10	18 24 6	24 5.3	26	10	18 44 16	23 58.0
26	9½	24 26	24 9.0	26	8	44 18	24 10.2
26	10	25 58	24 13.5	26	10	44 25	23 58.3
26	9½	26 27	24 9.0	26	9	45 22	23 54.1
26	10	26 35	23 55.1	26	10	45 45	24 8.1
26	10	27 2	23 53.3	26	10	46 0	24 5.5
26	11	27 18	24 0.3*	26	9½	46 2	24 12.0
26	9	27 32	24 10.9	26	8½	46 51	23 56.3
26	8	27 39	23 52.8	26	9	47 16	24 4.2†
26	10	28 37	24 10.1	26	9	48 20	24 3.8
26	9	28 53	24 10.2	26	10	48 42	24 1.3
26	9½	29 22	23 55.7	26	8	50 35	23 54.4
26	10	29 32	23 55.5	26	10	52 2	24 7.8
26	9½	29 52	23 57.4	26	10	52 5	24 4.3
26	10	30 55	24 10.9	26	10	52 7	24 7.5
26	11	30 57	24 9.6	26	9½	52 19	24 7.3
26	10	31 22	24 13.5	26	7	53 8	23 54.2
26	9	31 29	24 13.9	26	9½	53 52	24 3.6†
26	9½	31 58	24 10.6	26	9	54 16	23 53.9
26	9	31 58	24 11.1	26	8	54 40	24 8.9
26	9	33 1	24 9.9	26	10	56 5	23 57.0
26	10½	35 20	23 59.3	26	8½	56 10	23 56.1
26	9½	35 25	23 58.5	26	10	57 17	23 54.1
26	10	35 39	23 54.1	26	9½	57 39	23 56.2
26	8	37 14	24 3.6†	26	9	58 7	24 5.5
26	11	38 9	24 0.2	26	10	58 14	24 5.8
26	10	38 25	24 6.4	26	10	58 15	24 6.2
26	10	39 18	24 11.4	26	9½	59 28	24 8.2
26	9½	39 32	24 8.0	26	10	59 34	23 55.2
26	10	39 44	24 12.8	26	9	18 59 52	23 58.3
26	10	40 3	24 9.3	26	10	19 0 43	24 12.8
26	9½	40 14	24 7.5	26	10	0 56	24 10.4
26	10	40 35	23 59.5	26	8½	2 22	24 8.2
26	8	43 10	24 10.7	26	7	2 58	23 59.0:
26	10	43 46	24 6.7	26	9½	3 7	24 7.7:
26	10	18 44 8	24 4.6	26	9½	19 3 11	24 9.4

\* One of a cluster.

† (4).

NOTE.—Strong twilight.



APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

374 STARS NEAR THE ECLIPTIC,

OBSERVED IN JULY, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup>
3	7	17	51	37	24 46.4	2	9½	18	2	46	23 52.3
3	8		52	7	24 37.1	3	8½		3	33	24 40.3
3	10		52	13	24 44.5	3	8½		3	35	24 30.9
3	11		52	17	24 45.6	3	10½		3	57	24 34.1
3	10		52	20	24 48.0	3	8	0	4	21	24 37.6
3	10		53	22	24 35.1	3	10½		4	55	24 31.6
3	9½		53	29	24 33.0	3	9		5	23	24 36.1
3	10		53	37	24 38.7	3	9½		5	47	24 32.5
3	10		53	39	24 32.5	3	9½		6	45	24 34.3
3	10		53	56	24 37.5	3	9½		7	18	24 36.5
3	10		55	15	24 42.5	3	8½		7	44	24 43.4
3	9½		55	44	24 42.7	3	10		7	44	24 41.3
3	7		55	45	24 40.9*	3	10		8	55	24 38.1
3	10		55	48	24 43.8	3	10		9	25	24 36.3
3	9½		57	6	24 46.0	3	9		9	48	24 32.7
3	10		57	15	24 47.1	3	9½		10	15	24 40.8
3	10		58	10	24 45.8	3	10½		10	25	24 40.6
3	10		58	47	24 36.6	3	9		10	48	24 39.3
3	10½		59	48	24 37.0	2	9½		12	23	24 3.0
3	10½	17	59	53	24 33.5	3	11		12	33	24 42.0†
3	10	18	0	4	24 42.8	3	10½		12	57	24 46.5
3	9½		0	12	24 32.6	3	10		13	4	24 41.7
3	8		0	20	24 41.0	3	9		14	29	24 41.6
3	8		0	28	24 44.0	3	9		14	47	24 50.3
2	10		0	48	24 7.5	3	8		15	19	24 27.5
2	9½		1	23	23 56.5	3	10		15	58	24 39.9
3	10		1	51	24 44.3	3	10		16	4	24 38.5
3	10½		2	30	24 41.7	3	11		16	6	24 33.1
2	10		2	33	24 4.9	3	9½		16	27	24 29.5
3	10½	18	2	38	24 42.3	2	9½	18	18	12	23 51.6

(4).

† Double.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup> <sup>'</sup> <sup>."</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup> <sup>'</sup> <sup>."</sup>
3	11	18	18	17	24 31.2	3	9	18	33	14	24 45.9
2	10		19	18	23 52.2	3	9½		34	15	24 35.2
3	8		20	5	24 32.5	3	8½		34	29	24 38.7*
3	10		20	44	24 48.0	2	10		35	3	24 4.2
3	10		21	7	24 46.8	2	10		36	6	23 55.1
3	10		21	29	24 34.3	3	10		36	16	24 50.3
3	9½		22	3	24 45.9:	2	9½		36	21	23 57.8
3	11		22	8	24 43.5	3	10		37	1	24 34.1
3	10		22	25	24 49.7	3	10		37	5	24 31.3
3	10		22	43	24 42.4	3	10		37	57	24 47.1
3	8		22	55	24 49.8	3	9½		38	19	24 34.3
3	10		23	38	24 28.1	3	8		38	21	24 28.6
2	10		24	3	24 6.0	3	9½		38	52	24 31.8
3	9½		25	46	24 47.8	3	9		39	4	24 43.1
3	9½		26	2	24 33.7	3	11		39	30	24 31.7
3	9½		26	24	24 32.5	3	9½		40	19	24 33.7
3	8½		26	44	24 35.9	3	11		41	35	24 45.1
3	8		26	56	24 33.0	3	9		41	59	24 33.3
3	8½		27	12	24 45.6	3	11		42	0	24 42.4
2	10		27	44	23 58.5	3	10		42	12	24 41.9
3	10½		28	7	24 33.8	3	7½		42	24	24 31.6
3	9½		28	11	24 35.9	3	11		43	42	24 36.3
3	10½		28	20	24 38.1	3	11		43	59	24 41.3
2	10½		28	52	23 52.1	3	8		44	8	24 32.6
3	10		28	59	24 48.3	3	9		44	11	24 45.6
2	8		29	2	23 50.4	3	10½		45	27	24 33.2
3	10½		29	14	24 45.8	3	9½		45	40	24 33.8
3	11		30	15	24 30.5	3	9½		46	10	24 28.6
3	9½		30	57	24 30.3	3	10		46	31	24 31.3
3	9½		31	55	24 36.5	3	7		47	32	24 48.5
3	9½		32	6	24 44.5	3	9½		47	44	24 31.6
2	9½		32	8	23 52.9	3	9½		47	46	24 32.7
2	9½		32	16	24 3.3	2	9½		48	1	24 3.3
3	9½		32	24	24 30.5	2	8½		48	7	23 58.8
3	8½	18	33	7	24 51.3	2	9	18	48	10	24 1.0

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup> <sup>'</sup> <sup>0</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup> <sup>'</sup> <sup>0</sup>
3	10	18 48 39			24 46.0	18	10	18 55 36			18 8.0
3	9½	48 56			24 47.6	3	11	56 3			24 44.1
2	9½	49 31			23 59.3	3	9½	56 37			24 43.5
18	8½	49 33			18 7.5	18	10½	56 43			18 8.2
3	11	49 44			24 49.1	18	10½	57 16			17 50.3
3	10	50 5			24 51.1	3	10	57 25			24 51.6
18	8	50 5			18 8.1	18	9½	57 27			17 50.8
18	11½	50 17			18 3.8	3	11	57 33			24 51.5
3	8	50 44			24 35.8	18	9	58 10			18 9.1
18	8	50 44			18 4.7	18	8	58 31			18 5.0
3	9	51 9			24 35.2	18	9½	58 36			18 5.4
18	8½	51 27			18 8.0	18	8	58 45			17 51.8
18	10	51 33			18 2.0*	3	11	59 5			24 34.4
18	9½	51 40			17 54.2	18	8	59 21			17 53.8
3	8	51 48			24 51.4	21	9	59 28			20 30.3
18	9½	52 7			18 1.0	3	8½	59 38			24 38.6†
18	11	52 21			17 50.2	18	11½	18 59 56			18 3.4
2	10	52 40			23 55.4	3	11	19 0 0			24 47.4
2	9½	52 45			23 55.9	18	11	0 0			18 4.4
3	10½	52 51			24 46.1	18	10	0 11			18 9.1
3	10	52 55			24 44.4	3	9½	0 13			24 39.4
3	9½	53 2			24 46.9	21	8½	0 13			20 25.0
18	10	53 15			18 0.3†	3	9½	0 16			24 47.7
18	10	53 22			17 57.1	2	10	0 23			24 4.6
18	11½	53 23			18 6.3	3	9½	0 46			24 49.7
3	7	53 34			24 34.3	21	7	0 48			20 16.6
18	9½	54 15			17 55.4	18	8½	1 7			18 8.1
3	10½	54 18			24 44.7	18	9½	1 11			17 56.9
3	11	54 20			24 43.1	18	11	1 15			17 56.1
3	10½	54 21			24 49.2	18	10	1 17			17 51.2
18	8	54 28			17 51.1	18	8½	1 58			17 58.0
3	8½	54 33			24 46.7	3	10½	2 12			24 47.4
3	10	54 57			24 45.3	18	10½	2 13			18 5.3
18	11	55 3			17 50.4	21	10	2 14			20 16.0
2	10	18 55 31			24 6.8	3	10½	19 2 20			24 37.0

\* S. of double.

† (4).

Days Obs.	Mag.	$\alpha$ .			$\delta$ .	Days Obs.	Mag.	$\alpha$ .			$\delta$ .
		h.	m.	s.	$^{\circ}$			h.	m.	s.	$^{\circ}$
3	8 $\frac{1}{2}$	19	2	24	—24 41.1*	3	10	19	8	45	—24 49.6
18	9 $\frac{1}{2}$		2	24	18 3.7	18	8 $\frac{1}{2}$		8	49	18 5.0
21	10		2	49	20 13.7	3	10		8	55	24 39.0
21	8 $\frac{1}{2}$		3	6	20 29.4	2	9 $\frac{1}{2}$		9	2	23 51.7
2	9 $\frac{1}{2}$		3	8	23 56.0	18	9 $\frac{1}{2}$		9	9	18 8.5
2	9 $\frac{1}{2}$		3	11	23 51.9	18	9 $\frac{1}{2}$		9	17	17 57.4
18	9		3	14	17 51.0	2	8		9	38	24 9.0
3	8 $\frac{1}{2}$		3	18	24 33.3	21	9		9	49	20 33.2
3	9 $\frac{1}{2}$		3	29	24 40.0	3	8 $\frac{1}{2}$		10	10	24 39.1*
18	9		3	31	17 56.5	18	9		10	12	18 1.0*
18	9 $\frac{1}{2}$		3	31	17 49.7	2	7		10	13	23 49.4
2	8 $\frac{1}{2}$		4	0	23 57.1	3	9 $\frac{1}{2}$		11	0	24 38.9*
21	8		4	11	20 26.2†	2	7 $\frac{1}{2}$		11	41	23 59.2*
18	11		4	14	18 5.1	18	11		11	47	17 55.6
3	9 $\frac{1}{2}$		4	26	24 46.2	2	8		11	49	24 6.6
18	10 $\frac{1}{2}$		4	26	18 6.5	18	11 $\frac{1}{2}$		11	55	18 2.2
21	11		4	28	20 26.2	18	11 $\frac{1}{2}$		11	57	18 5.1
18	10		4	33	18 7.8	2	7		12	0	23 53.5
18	9 $\frac{1}{2}$		5	10	17 47.6	18	10		12	13	18 6.4
21	9 $\frac{1}{2}$		5	12	20 22.4	2	10		12	16	23 53.8
18	8 $\frac{1}{2}$		5	13	17 55.1	18	10		12	19	18 5.7
2	10		5	29	24 4.0	3	8		12	31	24 44.8
18	10		5	46	18 1.1	3	8 $\frac{1}{2}$		12	44	24 42.0
2	9 $\frac{1}{2}$		6	21	24 2.5	3	11		12	55	24 47.4
2	9 $\frac{1}{2}$		6	29	23 57.0	2	9		13	35	23 51.5
3	10		6	35	24 47.4	18	11 $\frac{1}{2}$		14	1	18 2.6
2	9 $\frac{1}{2}$		6	45	24 6.1	18	11 $\frac{1}{2}$		14	3	18 3.5
3	9 $\frac{1}{2}$		6	55	24 47.0	18	11		14	22	18 3.2
3	10		7	3	24 49.6	18	11		14	30	18 4.5
18	11		7	32	18 2.8	2	10		14	34	23 51.9
18	9 $\frac{1}{2}$		7	37	17 52.6	18	10 $\frac{1}{2}$		14	37	18 6.2
18	9 $\frac{1}{2}$		7	40	17 50.6	18	9		14	58	17 52.8
18	8 $\frac{1}{2}$		7	59	17 54.8	3	9 $\frac{1}{2}$		15	0	24 33.4
3	8 $\frac{1}{2}$		8	11	24 45.9	21	10 $\frac{1}{2}$		15	27	20 24.5
2	8 $\frac{1}{2}$	19	8	14	—24 6.3	18	9	19	15	32	—18 4.2

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.						h. m. s.			
3	10	19 16 6			-24 36.9*	21	11	19 27 4			-20 27.7
18	9½	16 8			17 54.5	18	9	27 58			17 53.4
18	9	16 21			17 58.6	18	10	28 5			17 57.4
18	8	16 40			17 55.7†	18	10½	28 43			17 53.3
18	10	17 27			17 53.3	18	10½	29 6			17 53.1
18	10	17 43			17 57.1	18	9½	29 13			17 52.7
2	9½	18 32			24 4.0	18	10	29 25			17 53.4
2	10	18 36			24 1.7	21	11	29 29			20 11.4
18	9½	18 38			17 55.3	18	8½	30 5			17 50.4
18	10	18 52			18 6.7†	18	10	30 47			17 55.7
21	10	19 38			20 19.0	18	10	31 41			17 56.4
21	10	19 41			20 19.3§	18	10	32 7			17 53.0
18	9	19 47			18 1.3	18	11	32 16			18 6.0
18	9½	19 48			18 5.6	18	9½	33 2			18 10.9
18	8½	20 24			17 52.2	21	10	33 22			20 11.4
18	9	20 40			18 0.4	18	9	34 15			18 0.4§
18	11½	21 8			17 51.2	18	10	34 20			18 11.3
18	11	21 21			17 52.6	18	11	34 22			18 5.4
18	9	21 23			17 51.8	21	10	35 6			20 29.7
21	11	21 48			20 26.9	21	10	35 7			20 30.2
18	10	22 18			17 53.3	18	10	35 45			18 3.8
21	10½	22 24			20 27.7	18	10	35 54			17 56.7
21	10½	22 35			20 27.6	18	9½	36 12			18 0.7
18	11	22 36			17 52.3	18	10	36 20			17 53.8
18	11	22 42			17 53.9	21	10½	36 22			20 17.9
18	9	22 45			17 58.9§	21	10½	36 29			20 27.6
18	10½	23 32			18 7.2	21	8	37 52			20 12.0
18	10	23 44			18 9.3	18	10	38 17			17 54.9
18	9½	24 45			18 3.2	18	10½	38 25			18 6.9
21	10½	25 5			20 19.2	21	8½	38 35			20 14.3
18	10	25 20			17 57.5§	18	10½	38 44			18 6.6
18	9½	25 24			18 0.7§	18	10	38 58			18 8.6
18	10	26 24			18 10.5	18	7	39 22			17 50.6
18	9½	26 49			18 10.7	21	11	39 32			20 13.3
18	11	19 27 4			-18 4.0	21	11*	19 39 34			-20 12.8

\* S. p. of double.

† Several small stars round this.

‡ Double.

§ (4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup> <sup>'</sup> <sup>0</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup> <sup>'</sup> <sup>0</sup>
21	10	19 39 48	20 15.0	18	9	19 48 27	17 52.5
18	10	40 4	18 9.0	21	8	48 41	20 10.2
18	9½	41 0	18 8.1	21	8	48 53	20 17.5:
18	9½	41 32	17 52.9	18	10	49 2	17 51.1
18	9½	42 18	17 52.0	18	10	49 10	17 54.9
18	10	43 14	17 55.3	18	9½	49 26	17 54.3
18	9½	43 28	18 2.4	21	8	50 24	20 12.6†
21	8	43 40	20 15.5	18	9½	50 57	18 1.6†
18	8½	43 59	18 1.0*	18	10	52 56	18 3.7
18	9½	44 4	18 7.2	18	10	53 26	18 2.5
21	9½	44 47	20 24.5	18	10	55 28	18 5.1
18	10	45 21	18 5.6	18	9½	55 45	17 52.6
18	9½	45 23	17 49.7	18	10	57 48	17 54.1
18	8	47 0	17 56.9	18	9	58 9	18 1.3*
21	11.	47 13	20 19.5	18	9½	59 2	18 7.9
18	10	47 14	17 53.6	18	9½	19 59 54	17 47.9
18	8	19 48 9	18 8.2	18	10	20 1 57	17 55.9

† (4).

† L. of double.

‡ (4) L. p. of double.

NOTES.—2nd—Low haze, in addition to the twilight, rendered the stars difficult to be seen, the magnitudes must, therefore, be very uncertain.

18th—Moon troublesome.

21st—Stopped by fog.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,  
OF  
1,205 STARS NEAR THE ECLIPTIC,  
OBSERVED IN AUGUST, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup>	<sup>m.</sup>	<sup>s.</sup>	<sup>°</sup>			<sup>h.</sup>	<sup>m.</sup>	<sup>s.</sup>	<sup>°</sup>
4	10 $\frac{1}{2}$	18	52	34	25 9.6	4	9 $\frac{1}{2}$	19	9	15	25 4.9
4	10 $\frac{1}{2}$		52	50	25 7.4	4	8 $\frac{1}{2}$		9	20	24 53.0
4	10		53	28	25 9.5	4	9 $\frac{1}{2}$		9	41	24 57.9
4	10 $\frac{1}{2}$		53	48	25 6.9	4	8		11	9	24 54.0
4	9		54	6	24 57.6	4	10		11	29	24 58.6
4	9 $\frac{1}{2}$		54	37	24 59.7	4	10 $\frac{1}{2}$		11	32	25 1.2
4	8		55	54	25 8.1	4	9 $\frac{1}{2}$		12	17	25 6.0
4	11		57	24	25 4.6	4	10 $\frac{1}{2}$		12	38	25 8.7
4	11		57	43	24 59.9	4	10		13	5	25 5.9
4	8		57	56	25 6.5	6	11		13	21	24 49.3
4	10 $\frac{1}{2}$	18	59	48	24 57.1	4	9 $\frac{1}{2}$		13	22	24 54.2
4	9	19	0	40	25 0.3	4	9 $\frac{1}{2}$		13	30	24 59.1
4	9		0	45	25 1.2	4	9 $\frac{1}{2}$		13	52	25 1.5
4	9 $\frac{1}{2}$		1	40	24 56.5	4	10		14	4	25 9.2
4	9 $\frac{1}{2}$		2	30	25 14.2	6	8		14	17	24 30.1
4	8 $\frac{1}{2}$		2	31	24 57.0	6	10		14	24	24 39.7
4	9 $\frac{1}{2}$		2	58	25 7.7	4	10		15	25	25 4.7
4	10		3	19	25 10.0	4	11		15	30	25 4.5
4	9		3	30	25 3.3	4	11		15	31	25 8.8
4	8 $\frac{1}{2}$		3	35	25 9.1	6	10		15	59	24 51.1
4	9 $\frac{1}{2}$		4	6	25 0.4	4	9 $\frac{1}{2}$		18	0	24 53.9
4	9 $\frac{1}{2}$		4	22	24 59.5	6	10 $\frac{1}{2}$		18	15	24 41.9
4	10		5	55	25 9.7	6	10 $\frac{1}{2}$		18	18	24 46.8
4	9 $\frac{1}{2}$		6	49	25 4.0	6	10 $\frac{1}{2}$		18	19	24 34.7
4	11		7	1	25 4.2	6	10		18	53	24 50.3
4	9 $\frac{1}{2}$		7	57	24 58.6	6	10		19	30	24 39.3
4	10		8	0	25 12.8	4	8 $\frac{1}{2}$		19	35	24 57.3
4	10		8	38	24 54.0	6	8		20	11	24 37.6
4	9 $\frac{1}{2}$		8	43	24 57.9	6	9		20	15	24 33.9
4	9 $\frac{1}{2}$	19	8	48	24 54.5	4	10	19	20	26	25 8.8

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
6	9 $\frac{1}{2}$	19 20 45			-24 37.9	4	9 $\frac{1}{2}$	19 29 3			-24 56.1
4	11	21 4			24 58.6	4	9	29 3			24 52.6
4	6	8 $\frac{1}{2}$	21 30		24 53.2	5	10 $\frac{1}{2}$	29 12			17 32.9
6	9 $\frac{1}{2}$	21 29			24 44.3	5	10 $\frac{1}{2}$	29 16			17 32.1
6	10	22 16			24 36.7	6	9 $\frac{1}{2}$	29 18			24 48.9
4	8 $\frac{1}{2}$	22 43			25 14.7	4	10	29 33			24 53.5
6	8	22 48			24 39.1	6	8	30 11			24 30.8
4	10 $\frac{1}{2}$	23 4			25 7.8	4	10	30 17			24 55.6
4	8 $\frac{1}{2}$	23 37			25 14.2	5	7	30 19			17 22.3
4	8 $\frac{1}{2}$	23 42			25 15.2	5	9	30 20			17 11.3
6	9	24.2			24 34.7	4	9	30 23			24 53.1
4	10	24 33			25 9.8	4	9	30 30			24 54.8:
5	9	24 45			17 22.4	4	8 $\frac{1}{2}$	30 47			24 57.6
6	8 $\frac{1}{2}$	24 49			24 35.4	6	9	30 53			24 35.5
5	9 $\frac{1}{2}$	25 5			17 18.5	6	9	30 55			24 36.3
6	10 $\frac{1}{2}$	25 9			24 49.1	4	8 $\frac{1}{2}$	31 5			25 9.5
4	8	25 14			24 56.7	5	10	31 12			17 19.2
4	10 $\frac{1}{2}$	25 18			24 53.9	5	10 $\frac{1}{2}$	31 18			17 23.5
6	10 $\frac{1}{2}$	25 20			24 48.9	5	10 $\frac{1}{2}$	31 19			17 23.4
6	8	25 41			24 49.0	6	8	31 35			24 50.1
4	10	25 53			24 58.1	5	10	31 45			17 15.3
5	10	25 58			17 21.6	6	8 $\frac{1}{2}$	31 45			24 40.2
5	11	25 59			17 28.4	5	9 $\frac{1}{2}$	31 57			17 17.0
4	10 $\frac{1}{2}$	26 16			24 57.9	4	11	31 58			25 10.3
6	8	26 20			24 51.7	6	11	32 29			24 39.9
6	8	26 50			24 41.9	5	9 $\frac{1}{2}$	32 37			17 27.1
4	9	27 9			24 58.2	4	10 $\frac{1}{2}$	32 47			25 11.0
5	10	27 19			17 28.1	5	10	32 56			17 22.0
5	10	27 29			17 8.7	6	8 $\frac{1}{2}$	32 58			24 44.3*
5	10	27 50			17 11.7	5	10	33 9			17 17.2
4	10	28 3			25 9.9	5	10 $\frac{1}{2}$	33 24			17 22.7
4	9 $\frac{1}{2}$	28 39			24 53.3	4	8 $\frac{1}{2}$	33 32			24 52.8
6	9 $\frac{1}{2}$	28 39			24 36.1	5	11	33 42			17 14.8
5	7	28 40			17 30.0	1	9	33 53			23 22.1
6	10	19 28 51			-24 49.2	5	10	19 34 44			-17 14.6



## APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	a.		δ.	Days. Obs.	Mag.	a.		δ.
		h. m. s.		° ' "			h. m. s.		° ' "
4	II	19 34 45	—25	4.0	I	10½	19 38 56	—23	28.3
5	II	34 53	17	17.4	6	8½	38 59	24	47.7
4	10½	34 58	25	9.5	5	7	39 3	17	25.9
4	II	35 2	25	11.8	I	8½	39 4	23	18.1
4	II	35 3	25	4.9	4	II	39 7	25	9.2
5	9½	35 6	17	18.8*	5	10	39 20	17	29.3
I	10½	35 23	23	28.5	6	9½	40 0	24	31.5
6	9½	35 30	24	52.5	4	10	40 15	25	11.1
6	8	35 32	24	45.7	6	10	40 19	24	38.3
4	10	36 16	24	57.3	I	9½	40 35	23	16.4
I	8½	36 26	23	15.2	I	10*	40 46	23	25.8
4	10½	36 26	24	54.4	5	10	40 46	17	27.1
5	10½	36 30	17	26.6	I	9	40 53	23	21.4*
5	7½	36 38	17	26.2†	5	II	41 1	17	19.7*
6	II	36 38	24	50.5	4	10½	41 7	24	54.8
5	8	36 39	17	15.9	5	10½	41 8	17	23.2
I	8½	36 43	23	12.9	I	10½	41 9	23	14.0
I	8	36 45	23	23.0*	4	10½	41 29	24	56.7
4	10½	36 56	25	6.8	6	8	41 35	24	49.4
I	8½	37 10	23	22.8*	5	10½	41 44	17	18.0
4	10	37 11	24	57.3:	4	10½	41 58	24	55.2
I	9	37 20	23	28.1	6	9½	42 2	24	32.4
5	10½	37 20	17	10.0	6	10	42 6	24	49.2
6	10½	37 30	24	50.4	4	10½	42 7	24	59.2
6	10½	37 30	24	54.0	5	10½	42 15	17	25.0
4	10½	37 32	25	7.4:	4	9	42 20	25	10.1
5	II	37 37	17	13.2	4	9½	42 25	25	9.3
4	10	37 45	25	9.0	5	9½	42 52	17	12.3
5	II	38 4	17	14.5	5	9½	43 0	17	16.3
5	II	38 5	17	11.2	6	7	43 1	24	49.0
I	9½	38 9	23	27.1	4	10	43 22	25	8.5
6	8	38 17	24	46.4	I	8	43 25	23	8.7
5	7	38 32	17	26.5	6	10	43 30	24	38.3
6	9	38 43	24	42.0	5	7	43 50	17	15.8†
4	9½	19 38 48	—25	9.3	I	10	19 44 0	—23	22.4†

\* (4)₂

† M. C.

‡ S. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>°</sup>			<sup>h. m. s.</sup>	<sup>°</sup>
5	8	19 44 17	17 24.7	6	7½	19 48 0	24 43.8
5	9	44 18	17 22.7	4	8½	48 18	25 11.8
6	10½	44 27	24 33.6	6	10	48 22	24 49.0
1	10	44 39	23 27.4	4	10	48 30	25 12.9
5	11	44 47	17 14.6	1	8	48 45	23 19.8
4	10	44 48	24 59.2	5	9	48 52	17 28.7
6	10	44 49	24 33.5	6	10	48 54	24 45.3
5	10	44 52	17 14.2	4 6	8	48 57	24 49.9
1	10	44 57	23 24.2	5	10	48 58	17 26.4
5	10½	44 57	17 18.8	5	10	49 2	17 25.7
4	9½	45 3	24 52.8	4	10	49 7	24 53.7†
4	8½	45 8	24 53.5	1	10	49 22	23 21.5
5	10	45 11	17 17.6	1	11	49 27	23 13.6
5	11	45 25	17 15.9	1	11	49 36	23 14.7
1	9	45 27	23 14.0	1	10	49 48	23 15.2
1	9½	45 33	23 15.1	6	10	49 48	24 45.7
6	9	45 36	24 38.1	5	9½	49 53	17 27.2
4	10	45 47	25 8.6	5	10	50 17	17 23.1
4	10	45 49	25 10.8	6	10	50 20	24 34.2
6	10	45 52	24 37.1	5	10	50 24	17 27.7
4	10½	45 56	24 55.5	4 6	8	50 32	24 50.7
6	9	46 5	24 47.7	4	9	50 40	24 57.5
4	10	46 15	25 8.5	4	9	50 46	24 59.3
5	7½	46 19	17 26.3*	1	10	50 55	23 13.8
1	9	46 44	23 12.7	5	9	50 56	17 27.7
1	9½	46 47	23 19.0	1	10	51 9	23 13.9
1	9½	46 47	23 16.5	1	10	51 11	23 13.4
4	9½	47 9	25 7.3	5	10½	51 25	17 25.6
6	9½	47 14	24 34.1	6	8	51 48	24 35.4*
6	10½	47 15	24 35.9	4	9½	51 50	25 0.4
5	9	47 21	17 30.0	1	10	51 52	23 14.4
5	11	47 36	17 24.8	5	10	51 55	17 28.5
4	10½	47 38	25 7.2	1	10½	52 0	23 14.5
1	10	47 41	23 22.1	4	10	52 5	25 7.5
1	8	19 47 53	23 24.2	5	9	19 52 6	17 30.0

\* M. C.

† N. S. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
4	10	19 52 7	-25 6.6	4	9½	19 56 51	-25 0.0
4	9½	52 30	25 15.2	1	9½	56 53	23 17.3
6	9	52 40	24 48.9	6	10	56 56	24 41.3
5	10	52 48	17 27.4	1	9½	56 58	23 29.2†
5	9	53 4	17 13.7	4	10	57 8	25 1.6
6	9	53 5	24 33.2	1	9½	57 13	23 23.0
1	11	53 11	23 26.0	5	8	57 15	17 11.7
4	10	53 18	24 56.9	6	10	57 22	24 41.3
4	10	53 20	24 55.6	5	10	58 5	17 28.2
1	9½	53 22	23 23.3	4	8	58 6	25 11.8
1	9½	53 39	23 18.1	1	9½	58 29	23 13.4
1	8	53 43	23 14.7	1	10	58 41	23 18.3
4	10	53 44	24 58.4	1	10	58 44	23 18.9
6	9	53 51	24 49.8	5	7½	58 53	17 23.3
4	10	54 0	25 0.4	5	7½	59 9	17 25.5
5	10	54 20	17 32.3	1	10	59 11	23 19.8
4	9	54 34	24 59.4	4	8½	59 20	25 1.0†
6	11	54 41	24 47.4	1	10	59 24	23 16.1§
1	10	54 42	23 13.2	5	8	59 26	17 15.0
1	10½	54 45	23 29.6	4	8½	59 30	25 7.6
6	10	54 48	24 49.5	5	9½	59 36	17 24.8
6	10	54 54	24 50.7:	6	9½	59 44	24 34.1
6	8	55 2	24 46.1*	5	10½	19 59 54	17 18.6
5	11	55 31	17 27.5	4	9½	20 0 0	24 59.9
1	-	55 39	23 23.0:	1	9½	0 4	23 22.4
1	8	55 43	23 11.4	5	10	0 11	17 13.6
1	10	55 45	23 15.7	4	9½	0 17	25 0.2
5	10	55 51	17 22.2	1	8	0 26	23 18.0
5	10	56 0	17 32.6	6	11	0 32	24 41.1
6	10	56 0	24 42.1	5	10½	0 35	17 25.0
5	11	56 3	17 22.4	1	11	0 41	23 19.3
1	9½	56 14	23 16.0	4	9½	1 4	25 10.9
4	11	56 30	24 59.9	5	9	1 31	17 12.5
6	10	56 37	24 44.7	5	9	1 49	17 18.9
5	6	19 56 40	-17 18.5	5	10	20 1 51	-17 28.6

\* M. C.

† N. f. of double.

‡ (4).

§ Double.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup> 20	<sup>m.</sup> 2	<sup>s.</sup> 3	<sup>°</sup> —23 14.6			<sup>h.</sup> 20	<sup>m.</sup> 7	<sup>s.</sup> 58	<sup>°</sup> —23 27.0
1	9½					1	10				
1	10		2	10	23 12.5	1	9½		8	6	23 24.0
4	10		2	15	24 56.1	5	11		8	9	17 16.7
4	8½		2	16	25 0.2*	1	9		8	12	23 26.0
6	10		2	26	24 34.7	5	11		8	23	17 24.0
6	7		2	30	24 39.9†	5	7		8	36	17 26.1
4	9½		2	32	25 0.5	1	10		8	42	23 13.5
5	7		2	35	17 24.4	5	11		9	37	17 25.4
5	10½		2	43	17 32.2	1	8½		9	39	23 20.8
4	10		2	50	25 7.7	5	11		9	46	17 17.1
6	10		3	7	24 47.1	1	10		9	59	23 19.0
1	9		3	12	23 16.1	5	10		11	30	17 21.9
1	10		3	24	23 17.2::	5	10½		11	38	17 29.3
5	8		3	38	17 18.0	5	9½		11	48	17 26.9
5	10½		3	38	17 32.7	5	7		12	23	17 17.8
5	9½		3	44	17 28.5	5	8½		12	27	17 28.8
4	9½		3	48	25 2.5	5	8		12	39	17 31.5
5	10½		3	49	17 27.8	5	9½		12	42	17 21.2
4	11		4	13	25 0.7*	5	7		13	40	17 14.9
1	8		4	25	23 8.5	5	10		14	12	17 16.1
1	8		4	29	23 8.0	5	9		14	36	17 15.7
4	7		4	42	17 19.3	5	9½		14	51	17 18.9
5	8½		5	1	17 24.6	5	9		15	36	17 27.3
1	9½		5	9	23 28.7	1	9½		15	48	23 28.1
5	10½		5	11	17 23.4	1	9½		16	5	23 22.8
1	10		5	20	23 12.7	1	9½		16	5	23 28.1
1	8		5	21	23 19.4	1	10		16	7	23 25.8
1	11½		6	21	23 17.9	5	9		16	14	17 30.0
5	7		6	21	17 12.0	5	10		16	46	17 11.3
1	9½		6	29	23 25.2	5	10		16	49	17 18.5
5	10		6	39	17 31.6	5	10½		17	1	17 26.8
1	11½		6	52	23 24.9	1	10		17	6	23 27.2
5	9		7	29	17 31.6	1	9		17	15	23 22.9
1	10		7	41	23 23.6	1	9½		17	38	23 24.7
5	7½	20	7	49	—17 18.7	5	10	20	17	45	—17 28.4

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
5	10	20 18 4	17 26.1	1	8	20 29 16	23 15.0
1	9½	18 39	23 15.2	1	9	29 25	23 13.4
5	8	18 42	17 28.1	5	8½	29 29	14 19.1
1	10	18 58	23 26.6	4	9½	29 55	15 44.2
5	9	19 10	17 17.3	6	10	29 58	14 53.7
5	9	19 21	17 13.6	6	8	30 23	15 4.6
5	9½	19 30	17 19.3*	4	8½	30 31	15 48.7
1	8	19 38	23 9.7	6	9½	30 31	14 53.0
1	9½	20 14	23 26.9	5	10	30 34	14 31.2
5	10	20 20	17 28.0	4	10	30 46	15 47.5
1	10	20 28	23 30.0	4	12	30 47	15 45.2
5	10½	21 19	17 16.3	6	9½	30 50	15 4.5
5	10	21 19	17 13.5	4	9½	30 56	15 32.5
5	9½	21 33	17 23.3	5	11½	31 1	14 12.4
5	9	21 52	17 12.9	6	10	31 53	15 12.2
1	9½	22 19	23 14.7	4	11	32 3	15 45.1
1	9½	22 25	23 16.5	6	9	32 12	15 3.6
5	9½	22 47	17 16.1	5	9½	32 18	14 25.4
1	8	22 50	23 13.4	4	11	32 22	15 46.4
1	8½	23 31	23 13.4	6	10	32 35	15 10.7
1	8½	23 34	23 11.2	6	7½	32 38	15 2.5
1	9½	23 37	23 16.4	4	8	32 44	15 40.7
1	10½	25 25	23 20.8	5	9	32 59	14 19.8*
1	9	25 37	23 16.0	4	9½	33 3	15 48.1
1	8	26 3	23 17.5	4	9½	33 4	15 53.0
1	9	26 9	23 22.7	6	10	33 23	15 5.8
1	9	26 12	23 15.8	5	11½	33 31	14 26.8
1	8	27 35	23 13.3	6	10	33 32	15 3.2
1	11	27 49	23 14.5	6	9½	33 46	15 4.2
1	11	27 53	23 14.0	1	8½	33 56	14 47.6
1	9½	28 29	23 28.2	7	10	33 58	17 43.3
6	10	28 52	15 9.4	1	9½	33 59	14 44.7
6	9	28 56	14 54.6	1	9½	34 1	14 36.6
5	11	29 5	14 22.7	1	8½	34 16	14 40.2
6	10	20 29 8	15 8.7	4	11	20 34 27	15 36.7

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		$^{\text{h. m. s.}}$	$^{\circ}$			$^{\text{h. m. s.}}$	$^{\circ}$
4	11 $\frac{1}{2}$	20 34 31	15 35.6	6	9	20 38 46	15 6.7
5	11	34 38	14 24.3	1	11	38 48	14 37.2
4	10 $\frac{1}{2}$	34 43	15 43.5	1	10 $\frac{1}{2}$	38 48	14 49.4
5	11 $\frac{1}{2}$	34 43	14 24.7	1	10	38 49	14 33.6
6	8 $\frac{1}{2}$	34 44	14 52.1	5	9 $\frac{1}{2}$	38 51	14 15.3
7	8	34 44	17 47.9	5	9 $\frac{1}{2}$	38 51	14 12.5
5	8 $\frac{1}{2}$	34 53	14 24.6	6	10	38 55	15 4.5
6	9 $\frac{1}{2}$	35 7	15 1.2	1	11	38 58	14 49.0:
5	10	35 11	14 22.2	1	9 $\frac{1}{2}$	39 0	14 37.2
6	9 $\frac{1}{2}$	35 33	15 2.1*	4	9 $\frac{1}{2}$	39 3	15 29.3
1	8	35 28	14 37.0	1	11	39 5	14 48.0
4	9 $\frac{1}{2}$	35 39	15 29.8	6	9	39 16	15 12.8
4	11	35 43	15 49.2	7	11 $\frac{1}{2}$	39 36	17 58.5
5	9 $\frac{1}{2}$	35 54	14 22.5	7	10 $\frac{1}{2}$	39 38	17 56.5
5	8	35 55	14 14.4	4	11 $\frac{1}{2}$	39 58	15 45.2†
1	10	36 8	14 44.2	5	8 $\frac{1}{2}$	40 6	14 8.4
1	11	36 13	14 33.0	6	10 $\frac{1}{2}$	40 19	14 51.3
1	10	36 27	14 41.5	6	10 $\frac{1}{2}$	40 20	14 55.3
4	9 $\frac{1}{2}$	36 39	15 49.9	6	11	40 21	14 58.3
5	10	36 39	14 27.4	7	11	40 42	17 46.9
6	9	36 49	15 6.3	4	9	40 43	15 50.2
6	9	37 13	15 3.8	6	8	40 43	15 2.2
1	10	37 24	14 33.0	1	9 $\frac{1}{2}$	40 55	14 47.9
7	9 $\frac{1}{2}$	37 28	17 46.0	4	8 $\frac{1}{2}$	40 59	15 48.0
1	9 $\frac{1}{2}$	37 32	14 31.7	6	10	41 8	14 58.5
1	9	37 43	14 39.4	4	10	41 10	15 45.7
6	9 $\frac{1}{2}$	37 44	14 56.2	1	9 $\frac{1}{2}$	41 18	14 42.6
5	8 $\frac{1}{2}$	37 48	14 25.7	1	9 $\frac{1}{2}$	41 21	14 37.2
1	11	37 57	14 51.9	6	8 $\frac{1}{2}$	41 22	14 58.2
5	10	37 57	14 25.8	6	10	41 48	15 0.3
6	10	38 7	15 2.4	6	10 $\frac{1}{2}$	41 52	15 5.9
5	10 $\frac{1}{2}$	38 11	14 29.5	4	8 $\frac{1}{2}$	42 39	15 37.7
6	10	38 17	15 4.8	4	9	42 45	15 49.1
5	10	38 42	14 19.2	6	8	42 53	15 9.1
5	11	20 38 43	14 13.5	1	8 $\frac{1}{2}$	20 42 57	14 44.1::

\* (4).

† An. 11 $\frac{1}{2}$  p.

## APPROXIMATE MEAN PLACES OF STARS,

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
1	10	20 42 59	14 48.0:	5	9½	20 47 4	14 27.3
7	11	43 6	17 57.1	1	9½	47 9	14 40.1
4	9½	43 9	15 48.1	1	11	47 9	14 50.8
6	11	43 14	15 4.5	6	9	47 33	14 58.5
1	9½	43 26	14 47.4	7	10	47 35	17 44.7
5	10	43 34	14 28.0	5	10	47 36	14 18.4
7	11	43 45	17 50.1	6	9½	47 36	14 55.5
7	11	43 47	18 3.9	6	9½	47 38	15 1.8
6	10	43 56	14 58.8	1	9	47 45	14 34.1
5	8½	44 15	14 19.5	1	9½	47 54	14 40.3
6	11	44 17	15 4.1	6	11½	47 59	15 4.0
4	10	44 20	15 45.6	5	9½	48 0	14 23.7
1	9½	44 21	14 37.6*	4	10	48 23	15 37.2
6	11	44 28	14 52.6	5	10	48 23	14 19.9
1	9½	44 30	14 40.3	5	9½	48 25	14 23.2
1	8½	44 43	14 35.7	7	11	48 27	17 55.2
5	10	44 44	14 30.2	1	10	48 50	14 31.6
7	11	44 46	17 55.1	7	11	48 56	17 53.8
7	10½	44 49	18 1.2	4	10	48 58	15 38.7
5	10	45 0	14 18.2	5	8½	49 1	14 22.8
7	10	45 20	17 59.4	5	8½	49 2	14 22.7
1	8½	45 21	14 36.7	6	12	49 5	15 4.5†
4	11	45 24	15 48.1†	6	10	49 13	15 5.2
4	11	45 26	15 46.3	1	10½	49 22	14 35.4
5	9½	45 31	14 17.1	1	9½	49 44	14 35.2
6	10	45 31	15 9.3	1	10	49 45	14 45.8
5	9	45 38	14 18.4	5	8½	49 51	14 18.8
7	10	45 41	17 57.6	1	10	50 1	14 36.5
1	10	45 43	14 35.7	7	11½	50 3	17 55.1
6	10	45 53	15 2.2‡	6	10	50 5	15 6.8
5	8½	45 59	14 18.2	1	10½	50 12	14 36.9
4	11	46 22	15 35.9	5	9½	50 28	14 15.4
4	9	46 24	15 31.3	6	9½	50 31	15 4.5
5	8	46 25	14 22.8	7	10½	50 46	17 55.2
4	9	20 46 39	15 38.2§	4	9½	20 50 51	15 53.3

\* L. of double. † N. f. of double. ‡ (4). § An. 11th N. p. ¶ N. p. of double. ¶ N. of double.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
7	10	20 51 21			17 58.4	5	8 $\frac{1}{2}$	20 55 22			14 18.3
1	9	51 36			14 36.0	1	9	55 27			14 43.6
5	11	51 36			14 19.4	5	11	55 31			14 23.5
4	10	51 37			15 37.0	6	10 $\frac{1}{2}$	55 33			14 57.5
4	10 $\frac{1}{2}$	51 40			15 35.2	1	8	55 38			14 35.1
1	10	51 41			14 35.8	5	11	55 44			14 28.5
5	9	51 41			14 30.1	1	10	55 56			14 36.3
6	10	51 42			15 1.9	7	11	56 35			17 47.9
6	9 $\frac{1}{2}$	51 43			14 57.4	4	9 $\frac{1}{2}$	56 36			15 47.4
5	8	52 58			14 30.7	5	10 $\frac{1}{2}$	56 39			14 28.9
6	9	52 20			15 3.0	6	10	56 44			15 2.8
5	9 $\frac{1}{2}$	52 19			14 12.6	1	8	56 50			14 44.4
7	11	52 21			17 58.1	6	10	56 58			14 54.9
6	10 $\frac{1}{2}$	52 33			14 59.2	1	10	57 4			14 48.6
6	10	52 40			15 4.0	5	11 $\frac{1}{2}$	57 9			14 29.1
1	10	52 50			14 49.4	5	8 $\frac{1}{2}$	57 12			14 23.9
7	9	52 51			17 58.9	1	10	57 13			14 37.4
1	12	53 9			14 50.5	5	9 $\frac{1}{2}$	57 15			14 27.1
5	10	53 12			14 29.6	6	9 $\frac{1}{2}$	57 20			14 57.8
5	11	53 16			14 26.1	6	9 $\frac{1}{2}$	57 25			14 56.2
5	9 $\frac{1}{2}$	53 18			14 24.0	7	11	57 29			17 45.2
7	10	53 21			17 59.2	7	11	57 35			17 46.5
1	10 $\frac{1}{2}$	53 35			14 37.0	5	11	58 19			14 26.7
5	9 $\frac{1}{2}$	53 35			14 15.4	4	10 $\frac{1}{2}$	58 21			15 50.6
6	11 $\frac{1}{2}$	53 54			15 4.2	7	10	58 27			18 0.1
7	10	53 56			18 5.6	7	10 $\frac{1}{2}$	58 28			17 54.5
7	9	54 3			18 1.0	1	10	58 31			14 45.5
1	9 $\frac{1}{2}$	54 7			14 35.3	5	9 $\frac{1}{2}$	58 33			14 18.1
6	10	54 11			15 9.7	6	8 $\frac{1}{2}$	58 36			15 6.1
4	12	54 14			15 48.2	6	11	58 39			15 2.0
1 6	8 $\frac{1}{2}$	54 28			14 51.3	5	11	58 40			14 28.1
6	8 $\frac{1}{2}$	54 38			14 58.1	1	10	58 45			14 46.4
1	9	54 39			14 30.9	6	8 $\frac{1}{2}$	58 46			14 58.7
1	9	55 8			14 35.0	4	9 $\frac{1}{2}$	59 3			15 52.7
4	11	20 55 18			15 47.1	6	11	20 59 5			15 3.7



Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup> 20	<sup>m.</sup> 59	<sup>s.</sup> 26	<sup>°</sup> 15 51.1			<sup>h.</sup> 21	<sup>m.</sup> 3	<sup>s.</sup> 3	<sup>°</sup> 13 11.1
4	9½					19	10½				
5	11			59 38	14 29.6	7	10½			3 6	17 55.7
1	8			59 39	14 39.3	6	11½			3 10	14 56.5
4	10	20	59	46	15 28.8	1	8½			3 13	14 35.8
5	9	21	0	9	14 18.3	4	10			3 16	15 46.9
7	11			0 25	17 59.3	5	9½			3 17	14 29.2
19	11			0 33	12 58.2	1	10½			3 26	14 44.1
6	10			0 35	15 3.8	5	9½			3 39	14 24.8
7	11			0 35	18 0.1	5	10			3 42	14 26.8
19	10½			0 39	12 52.5	5	10			4 5	14 28.2
4	11½			0 43	15 48.2	6	9½			4 14	15 8.6
5	9			0 46	14 18.2	6	10			4 24	15 13.1†
6	11			0 49	15 8.7	7	9			4 25	17 57.5
4	11			0 52	15 48.3	7	7½			4 32	17 47.6
19	9			0 52	12 55.0	1	9½			4 34	14 42.0
6	10			0 55	14 59.3	19	8½			4 36	13 10.3
6	9½			1 8	15 2.8	7	10			4 40	17 58.5
7	11			1 10	17 59.2	1	10			4 46	14 49.8
1	9			1 21	14 47.8	1	6			4 49	14 51.5
19	9½			1 21	12 56.4	5	8			4 52	14 20.1
1	9			1 26	14 36.9	6	10			4 59	14 53.1
4	11			1 30	15 49.1	6	8½			5 1	14 58.6
7	8			1 32	17 54.1	7	10			5 5	17 57.6
6	10			2 1	15 6.3	6	9½			5 7	14 50.7
19	11			2 3	13 0.4	4	11			5 14	15 43.4
19	11			2 4	12 54.2	19	10½			5 17	13 4.4
7	10½			2 9	17 56.4	4	10			5 18	15 44.5
19	9			2 9	12 53.3	6	10			5 37	15 0.4
4	10			2 13	15 34.9	1	8½			5 42	14 46.9
6	9			2 30	15 2.9	5	8			5 47	14 18.4
6	9½			2 30	15 4.5*	7	11			5 49	18 5.2
4	10½			2 32	15 40.7	7	11			5 54	17 56.1
5	9½			2 33	14 11.2	1	8			5 59	14 37.6
19	9			2 36	12 59.6	1	9½			6 2	14 34.6
6	12	21	3	0	14 55.2	5	9½	21	6	4	14 30.5

\* S. of double.

† ? Duplicate 12th Oct., 1849?

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup> <sup>'</sup> <sup>"</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup> <sup>'</sup> <sup>"</sup>
19	10	21	6	7	13 5.8	5	10 $\frac{1}{2}$	21	9	36	14 21.7
7	8		6	22	17 50.0	7	9 $\frac{1}{2}$		9	48	17 48.9
19	9 $\frac{1}{2}$		6	30	13 1.8	6	11 $\frac{1}{2}$		9	55	15 9.2
5	11		6	35	14 22.3	19	11 $\frac{1}{2}$		9	56	12 57.3
6	10		6	38	15 1.8	19	11 $\frac{1}{2}$		10	2	12 58.9
4	10		6	45	15 36.3	4	11		10	14	15 37.3
6	10		6	45	14 58.2	6	11		10	15	15 11.5
7	11		6	53	18 0.1	6	11		10	17	15 7.4
1	10		6	54	14 48.9	1	10 $\frac{1}{2}$		10	18	14 40.8
4	11		7	2	15 36.6	1	10		10	19	14 40.6
5	11		7	6	14 27.9	7	10		10	20	17 56.8
19	10		7	13	13 0.2	19	10		10	24	13 0.4
7	10 $\frac{1}{2}$		7	48	18 1.2	4	11		10	28	15 36.9
6	10		7	52	15 6.3	4	8 $\frac{1}{2}$		10	35	15 44.3
6	10		7	57	15 3.6	5	9		10	58	14 14.4
7	10 $\frac{1}{2}$		7	57	17 56.8	1	9		10	59	14 37.4
1	8		8	3	14 38.9	7	9 $\frac{1}{2}$		11	3	18 0.3
1	9 $\frac{1}{2}$		8	9	14 40.0	4	10 $\frac{1}{2}$		11	8	15 49.0
19	11 $\frac{1}{2}$		8	10	12 59.1	19	10		11	11	13 7.8
6	11		8	12	15 3.9	7	10		11	14	17 54.5
4	10		8	14	15 41.7	4	10		11	15	15 44.8
19	11 $\frac{1}{2}$		8	17	12 58.9	7	11		11	22	17 58.9
6	11		8	20	15 2.3	5	11		11	29	14 20.0
19	9 $\frac{1}{2}$		8	25	13 8.1	5	10 $\frac{1}{2}$		11	33	14 17.0
1	10		8	30	14 40.4	19	10 $\frac{1}{2}$		11	33	13 9.4
1	9		8	35	14 41.2	5	10		11	45	14 17.1
1	9 $\frac{1}{2}$		8	37	14 45.4	4	10 $\frac{1}{2}$		11	46	15 49.2
5	8 $\frac{1}{2}$		8	42	14 12.3	19	10		11	49	12 55.0
7	8 $\frac{1}{2}$		9	4	17 47.9	6	10		11	52	14 53.4
6	9		9	13	14 48.4	6	9 $\frac{1}{2}$		11	53	15 1.9
19	10 $\frac{1}{2}$		9	13	13 6.6	4	10		12	40	15 46.7
19	10 $\frac{1}{2}$		9	23	13 5.7	1	9 $\frac{1}{2}$		12	44	14 33.5
5	10		9	29	14 33.3	7	11 $\frac{1}{2}$		12	46	17 59.1
5	11		9	29	14 19.2*	1	9		12	48	14 34.0
5	9 $\frac{1}{2}$	21	9	34	14 24.8	6	10 $\frac{1}{2}$	21	12	53	14 52.4

\* p. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
5	10	21 12 55	14 27.2	19	9½	21 16 37	12 57.0
5	10	13 9	14 24.0	5	11	16 50	14 27.9
5	10	13 10	14 26.4	19	11	16 51	12 58.2
5	10	13 11	14 26.6	1	11	16 59	14 49.4
7	11	13 12	17 56.5	1	10½	17 12	14 36.8
7	11	13 15	18 2.4	5	10	17 12	14 24.3
1	10½	13 29	14 48.8	5	8½	17 14	14 15.5
1	8	13 33	14 40.4	5	10½	17 17	14 26.8
4	8½	13 39	15 43.7	1	9½	17 23	14 35.7
1	9½	13 41	14 51.7	7	10	17 26	18 1.2
19	11	14 3	13 3.2	6	11½	17 39	15 4.7
19	11	14 26	13 4.6	4	9½	17 50	15 48.6
5	10	14 30	14 10.6	1	11½	18 8	14 49.8
4	9½	14 34	15 32.8	1	11½	18 10	14 52.4
19	11	14 34	13 8.8	1	10½	18 12	14 47.5
4	10	14 39	15 34.9	7	11	18 14	18 1.4
1	9½	14 42	14 46.9	4	9½	18 19	15 50.1
1	10	15 1	14 50.7	4	11	18 21	15 48.7
7	9½	15 5	17 43.7	7	7	18 23	17 54.8
7	9½	15 24	17 45.2	6	11	18 24	15 8.4
19	11	15 32	13 7.7	19	11½	18 25	13 7.5
7	11	15 33	17 47.6	7	9	18 32	18 5.1
4	10	15 35	15 48.8	19	11	18 32	13 10.5
5	9½	15 42	14 31.9	5	10	18 48	14 28.8
7	9	15 46	17 43.9	6	9½	18 52	15 5.9
4	9½	15 49	15 34.2	4	9½	19 6	15 49.6
1	9	15 51	14 45.1	1	9	19 13	14 41.9
1	6	9½	16 0	7	10	19 13	17 49.4
1	10	16 3	14 50.5	19	8½	19 13	13 10.7
5	11	16 5	14 30.5	19	8½	19 14	12 54.2
1	10½	16 7	14 46.8	19	11	19 15	13 8.9
19	11½	16 8	12 53.4	1	9	19 16	14 45.4
5	8	16 9	14 27.6	7	10	19 23	17 57.2
7	10	16 14	17 44.1	4	9½	19 26	15 47.3
6	10	21 16 34	14 56.3	7	10	21 19 42	17 58.3

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
4	10	21 20 0			15 47.5	7	8	21 22 55			17 54.9
19	10	20 2			13 5.6	4	11	23 25			15 50.4
6	11	20 5			15 4.3	5	11	23 29			14 21.0
5	9 $\frac{1}{2}$	20 7			14 25.3	6	11	23 31			15 9.3
1	9	20 16			14 36.2	1	9 $\frac{1}{2}$	23 35			14 38.7
5	10	20 19			14 26.4	7	11	23 36			17 58.7
7	10	20 20			17 59.8	19	11	23 39			13 12.2
5	11	20 21			14 26.0	1	10 $\frac{1}{2}$	23 42			14 35.0
19	9	20 27			13 5.2	7	10	23 44			17 57.9
19	10 $\frac{1}{2}$	20 30			13 7.4	1	10 $\frac{1}{2}$	23 53			14 37.2
4	9 $\frac{1}{2}$	20 36			15 52.9	5	10	23 57			14 27.0
19	11 $\frac{1}{2}$	20 45			13 7.7	5	10	24 3			14 28.3
7	10 $\frac{1}{2}$	20 48			17 59.5	5	9 $\frac{1}{2}$	24 15			14 29.4
1	10	20 51			14 45.9	1	8	24 27			14 51.7†
5	10	20 56			14 22.8	7	9 $\frac{1}{2}$	24 31			17 52.1†
7	9 $\frac{1}{2}$	20 56			17 58.9	1	9 $\frac{1}{2}$	24 39			14 51.1
1	10 $\frac{1}{2}$	21 10			14 34.0	4	10 $\frac{1}{2}$	24 39			15 47.6
1	10 $\frac{1}{2}$	21 24			14 34.8	5	11 $\frac{1}{2}$	24 39			14 27.5
7	10	21 31			17 55.3	4	10 $\frac{1}{2}$	24 42			15 46.3
6	11	21 38			14 56.5	5	9 $\frac{1}{2}$	24 48			14 27.7
4	11	21 40			15 46.6	19	11 $\frac{1}{2}$	24 49			13 6.4
4	10 $\frac{1}{2}$	21 41			15 45.8	7	11	24 53			17 51.0
6	8 $\frac{1}{2}$	21 41			14 52.6*	19	11 $\frac{1}{2}$	24 53			13 3.6
7	10	21 46			17 55.5	7	11	24 56			17 57.8
1	9	21 59			14 48.4	19	11	25 2			12 55.9
7	8 $\frac{1}{2}$	22 8			17 48.6	19	11	25 11			13 4.3
7	10	22 9			17 47.1	1	11	25 14			14 51.2
4	10	22 10			15 43.9	4	11 $\frac{1}{2}$	25 17			15 38.7
6	11	22 24			15 1.6	4	8 $\frac{1}{2}$	25 40			15 34.5
19	10	22 26			12 52.6	5	10	25 40			14 8.2
19	9 $\frac{1}{2}$	22 31			12 54.7	1	9	25 51			14 46.4
5	9	22 39			14 19.1	1	9	25 51			14 36.0
19	9	22 40			12 54.3	4	10 $\frac{1}{2}$	25 57			15 36.5
5	8 $\frac{1}{2}$	22 51			14 18.4	7	10	25 57			17 46.6
5	10	21 22 53			14 19.1	4	10	21 26 9			15 37.2

\* An 11th N.

† N. p. of double.

‡ (4.)

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h</sup> <sup>m</sup> <sup>s</sup> .	<sup>°</sup>			<sup>h</sup> <sup>m</sup> <sup>s</sup> .	<sup>°</sup>
19	10	21 26 10	12 53.6	19	10	21 30 31	12 54.7
5	9½	26 15	14 18.6	19	10	30 46	12 58.3
19	10	26 25	13 7.0	7	9½	31 4	18 1.4
1	9	26 33	14 41.5*	7	10	31 7	17 48.6
4	10½	26 44	15 37.8	4	11	31 9	15 44.1
1	9	26 52	14 42.8	4	12	31 11	15 51.3
4	10	27 4	15 37.2	4	11	31 13	15 43.7
7	10½	27 10	17 50.6	4	11	31 14	15 46.1
1	9	27 31	14 43.8*	5	9	31 40	14 16.8
7	8½	27 31	17 51.2*	5	10	31 43	14 22.6*
5	10	27 47	14 17.7	4	8½	31 52	15 39.6
5	9½	27 53	14 21.7*	19	10	31 52	13 8.9
7	10½	27 54	17 45.3	4	10	31 55	15 41.0
5	11	27 57	14 27.8	5	10	32 12	14 26.0
5	9	27 59	14 32.1	19	10	32 15	13 7.6
4	10½	28 8	15 48.5	5	11	32 17	14 25.4
19	10	28 11	12 52.7	19	9	32 17	13 12.5
19	11	28 12	12 56.5	4	—	32 32	15 41.7
19	11½	28 20	12 55.2	7	10½	32 45	17 57.8
4	11½	28 42	15 32.6	4	11	32 52	15 40.5
19	10½	29 3	12 55.3	1	9	33 0	14 41.6
4	10	29 18	15 34.1	4	9½	33 0	15 40.0
1	9	29 21	14 31.0	7	10	33 6	17 49.4
5	9	29 21	14 26.4	7	9½	33 29	17 56.8
4	10	29 25	15 32.9	4	8½	33 38	15 46.8
19	10½	29 35	13 9.1	19	10	34 3	12 56.1
19	10	29 39	13 3.2	19	9½	34 5	13 1.9
5	10	29 42	14 22.2	5	11	34 7	14 28.9
7	10½	29 49	17 49.1	5	11	34 8	14 23.9
19	9	30 4	12 58.9	5	9½	34 9	14 27.0
5	10½	30 5	14 27.7	1	9½	34 31	14 39.5
1	9½	30 7	14 37.5	5	11	34 34	14 25.2
1	10	30 27	14 38.0	4	10½	34 42	15 46.4
7	9½	30 29	18 3.3	1	10	34 45	14 39.3
7	11	21 30 30	17 57.1	4	11	21 34 58	15 44.4

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		$^{\text{h.}}$	$^{\text{m.}}$	$^{\text{s.}}$	$^{\circ}$			$^{\text{h.}}$	$^{\text{m.}}$	$^{\text{s.}}$	$^{\circ}$
5	II	21	35	6	14 27.3	4	10 $\frac{1}{2}$	21	40	7	15 47.2
4	8 $\frac{1}{2}$		35	13	15 49.6	4	10 $\frac{1}{2}$		40	23	15 49.0
7	8 $\frac{1}{2}$		35	14	18 4.1	4	9 $\frac{1}{2}$		40	40	15 44.2
4	9 $\frac{1}{2}$		35	16	15 37.9	5	10		41	1	14 22.8*
4	8 $\frac{1}{2}$		35	21	15 40.2	1	9		41	20	14 46.9
7	II		35	23	18 5.0	4	10		42	3	15 38.6
4	9 $\frac{1}{2}$		35	44	15 37.5	4	10		42	11	15 46.2
1	8 $\frac{1}{2}$		35	51	14 38.0	1	9		42	17	14 36.0
7	9 $\frac{1}{2}$		35	52	17 47.1	5	II		42	22	14 27.3
1	8		36	36	14 38.8	1	10 $\frac{1}{2}$		42	36	14 37.0
4	9 $\frac{1}{2}$		36	39	15 45.4	4	8 $\frac{1}{2}$		42	44	15 48.9
7	II		36	51	17 48.8	1	10		43	10	14 41.5
7	II		37	0	17 47.3	1	10 $\frac{1}{2}$		43	10	14 37.9
4	8 $\frac{1}{2}$		37	4	15 39.4	1	10 $\frac{1}{2}$		43	22	14 35.9
1	8 $\frac{1}{2}$		37	6	14 35.9	5	9		43	24	14 16.7
5	II $\frac{1}{2}$		37	8	14 30.1	4	10		43	42	15 30.0
4	II $\frac{1}{2}$		37	12	15 34.6	4	10		43	49	15 32.9
5	10		37	18	14 27.4	4	9 $\frac{1}{2}$		44	9	15 31.4
7	10		37	32	17 43.3	4	10 $\frac{1}{2}$		44	45	15 35.1
7	10		37	45	17 45.5	4	10 $\frac{1}{2}$		45	11	15 39.5
1	10		37	52	14 44.1	4	10 $\frac{1}{2}$		45	21	15 50.8
1	10 $\frac{1}{2}$		38	2	14 46.2	1	8		45	46	14 38.7
7	II		38	10	17 58.6	1	10		46	9	14 41.1
7	10		38	19	17 48.3	4	II		46	18	15 36.1
4	12		38	22	15 45.0	4	II		46	26	15 30.0
1	10		38	25	14 36.7	1	II $\frac{1}{2}$		46	34	14 38.2
4	II		38	33	15 44.6	1	II $\frac{1}{2}$		46	47	14 38.9
5	9 $\frac{1}{2}$		38	41	14 12.1	1	10		46	53	14 33.5
4	9 $\frac{1}{2}$		38	51	15 40.4	1	II		47	5	14 40.1
4	9		38	54	15 38.7	4	10		47	38	15 42.5
1	10		38	57	14 35.4	4	9 $\frac{1}{2}$		47	58	15 47.4
4	II $\frac{1}{2}$		38	59	15 35.5	4	9		48	7	15 49.0
1	9 $\frac{1}{2}$		39	16	14 48.7	1	9 $\frac{1}{2}$		48	14	14 50.9
4	8 $\frac{1}{2}$		39	26	15 35.1	4	9 $\frac{1}{2}$		48	28	15 47.5
5	II	21	39	43	14 31.3	1	10	21	48	29	14 48.7

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>°</sup>			<sup>h. m. s.</sup>	<sup>°</sup>
I	II $\frac{1}{2}$	21 48 43	14 46.9	I	8 $\frac{1}{2}$	21 59 32	14 43.8
4	IO	49 16	15 43.5	4	IO	59 40	15 46.6
4	IO	49 23	15 46.0	I	9 $\frac{1}{2}$	59 41	14 38.2
I	IO	49 54	14 34.2	4	9 $\frac{1}{2}$	21 59 52	15 38.1
I	8	49 57	14 39.0	4	II $\frac{1}{2}$	22 0 57	15 33.5
I	IO	50 7	14 36.1	4	II $\frac{1}{2}$	0 58	15 35.1
I	IO	51 3	14 35.4	4	II $\frac{1}{2}$	0 59	15 33.3
I	9 $\frac{1}{2}$	51 19	14 39.9	I	IO	1 10	14 42.8
I	8	51 21	14 34.4	I	II	1 18	14 36.4
4	IO	51 32	15 35.9	I	II	1 48	14 37.7
I	9 $\frac{1}{2}$	52 1	14 45.7	4	9 $\frac{1}{2}$	1 49	15 50.8
4	IO	52 20	15 47.0	4	8 $\frac{1}{2}$	1 50	15 40.7
4	IO	52 38	15 50.7	4	IO $\frac{1}{2}$	1 58	15 51.0
I	IO	52 40	14 41.0	4	8 $\frac{1}{2}$	2 1	15 42.5
I	8	52 44	14 31.4	4	8 $\frac{1}{2}$	3 7	15 34.1
4	9	52 45	15 47.5	I	IO	3 20	14 43.6
4	IO	54 6	15 53.6	I	8 $\frac{1}{2}$	3 25	14 47.3
4	9 $\frac{1}{2}$	54 9	15 43.4	I	IO	3 26	14 49.6
I	9 $\frac{1}{2}$	54 26	14 46.9	4	9 $\frac{1}{2}$	4 3	15 49.3
4	9	54 28	15 34.8	4	8 $\frac{1}{2}$	4 13	15 42.4*
I	9 $\frac{1}{2}$	54 31	14 38.0	I	IO	5 12	14 40.2
I	9 $\frac{1}{2}$	54 55	14 45.1	I	II	6 58	14 40.8
4	9	55 26	15 41.2	I	IO	7 36	14 40.8
I	II	55 31	14 48.0	I	IO	7 37	14 46.0
4	IO	55 44	15 40.4	I	IO	9 47	14 47.4
I	9 $\frac{1}{2}$	55 49	14 48.2	I	9 $\frac{1}{2}$	9 47	14 38.0
4	IO	56 2	15 35.1	I	9 $\frac{1}{2}$	10 14	14 49.6
I	9	56 15	14 47.3	I	9	10 50	14 51.6
I	IO	56 31	14 41.2	I	IO	11 23	14 46.2
4	II	56 51	15 48.8	I	II	12 47	14 38.3
4	IO	57 16	15 48.9	I	IO	12 57	14 50.2
I	9 $\frac{1}{2}$	58 28	14 41.7	I	IO	14 22	14 38.5
I	9 $\frac{1}{2}$	58 51	14 38.0	I	9 $\frac{1}{2}$	14 28	14 46.7
4	II	59 9	15 39.5	I	9	15 15	14 40.5:
4	II	21 59 30	15 44.5	I	8 $\frac{1}{2}$	22 15 51	14 46.0

\* (4).

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
I	8 $\frac{1}{2}$	22 15 52			14 34.5	I	8 $\frac{1}{2}$	22 21 51			14 46.4
I	8	15 57			14 39.5	I	10	22 38			14 44.7
I	7 $\frac{1}{2}$	17 0			14 45.4	I	8	23 35			14 34.6
I	8 $\frac{1}{2}$	17 8			14 49.5	I	8 $\frac{1}{2}$	24 2			14 43.5
I	10	17 9			14 48.7	I	10 $\frac{1}{2}$	25 43			14 49.6
I	10	17 16			14 40.4	I	10 $\frac{1}{2}$	26 0			14 45.9
I	8	18 24			14 52.5	I	10	26 5			14 50.9
I	9	18 51			14 49.7	I	10 $\frac{1}{2}$	27 23			14 49.7
I	8	19 18			14 54.7	I	8	28 13			14 48.8
I	9	19 39			14 50.8	I	9 $\frac{1}{2}$	28 37			14 44.1*
I	8	20 30			14 34.0	I	10	29 27			14 45.4
I	10	20 50			14 33.8	I	11	22 31 25			14 36.2
I	10 $\frac{1}{2}$	22 21 9			14 39.8						

\* (4).

NOTES.—1st—Stopped by fog.

6th—Between  $\alpha$ . 19h. 13m. and 20h. 4m. strong moonlight; no dependence can be placed on the magnitudes.

19th—Baffled by clouds and moonlight.

## APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

## 1,137 STARS NEAR THE ECLIPTIC,

OBSERVED IN SEPTEMBER, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
16	10	19 32 30			17 41.4	16	11	19 35 9			17 43.2
16	11	32 38			17 40.7	16	10 $\frac{1}{2}$	35 37			17 44.0
16	12	33 19			17 31.1	16	8 $\frac{1}{2}$	35 52			17 45.2†
16	11 $\frac{1}{2}$	33 25			17 32.1	16	9 $\frac{1}{2}$	36 13			17 47.4
16	11 $\frac{1}{2}$	33 27			17 37.7	16	9 $\frac{1}{2}$	36 36			17 50.6
16	12	33 27			17 37.1	12	10 $\frac{1}{2}$	37 3			17 6.9
16	11 $\frac{1}{2}$	34 36			17 33.7	16	10 $\frac{1}{2}$	37 26			17 34.6
16	12 $\frac{1}{2}$	19 34 43			17 38.2	16	11	19 37 35			17 36.3

† M. C.



Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup>
16	11	19 37 47		17 38.7	16	11½	19 46 18		17 47.4
16	9½	38 5		17 32.4	16	11½	46 22		17 52.5
12	9½	38 54		16 49.6	12	10	46 37		17 9.5
12	8	39 20		16 51.9	16	11	47 9		17 47.2
16	10½	39 24		17 47.8	16	11½	47 11		17 43.2
12	9½	39 42		17 4.9	15	11	47 24		22 1.7
12	11	39 53		17 8.3	12	11	47 33		17 2.6
16	10	39 55		17 30.3	12	10½	48 13		16 57.7
16	12	40 7		17 44.9*	12	8	48 14		17 0.4
12	11½	40 10		17 3.6	16	10½	48 14		17 44.4
16	12	40 37		17 45.7	15	10½	48 21		21 50.5
16	10	40 40		17 47.6	16	12	48 32		17 48.8
12	10½	40 47		17 4.7	12	10	48 43		17 2.7
12	10	41 30		17 5.5	15	12	48 47		21 53.8
16	11	41 45		17 42.0	16	10½	48 54		17 38.1
16	12	41 54		17 44.2	12	11	48 58		16 53.0
12	12	42 18		16 53.7†	15	10½	48 59		21 54.7
12	11½	42 50		16 53.5	16	11	49 0		17 37.5
12	10	42 59		16 55.0	12	11	50 17		16 52.9
16	9½	43 8		17 38.6†	15	11½	50 19		22 5.5
12	9	43 26		16 52.9	16	12	50 23		17 48.3
16	10	43 26		17 40.1	15	11½	50 24		22 5.8
16	10	43 28		17 46.6	12	11½	50 25		16 53.6
16	10	43 34		17 37.1	12	10	50 33		16 55.9
12	10	43 39		17 8.0	16	11½	50 51		17 46.0
16	10	44 2		17 44.2	12	11	51 16		17 9.8
16	9½	44 24		17 42.5	16	10	51 17		17 33.8
15	11½	44 36		22 7.5	16	10	51 35		17 38.4
16	10	44 42		17 45.8	15	12	51 24		22 6.4
12	11½	45 5		17 1.6§	12	10½	52 18		17 4.4
12	8	45 13		17 1.7§	15	9½	52 22		21 57.5
16	10½	45 26		17 50.2	12	11	52 24		17 12.0
16	9	45 31		17 47.9	16	10½	52 25		17 35.9
16	11	45 59		17 52.7	16	9½	52 28		17 48.9
15	11	19 46 12		22 6.3	16	10	19 52 32		17 36.0

\* N. of double.

† An. 11th p.

‡ M. C.

§ (4)

Days.Obs.	Mag.	$\alpha$ .	$\delta$ .	Days.Obs.	Mag.	$\alpha$ .	$\delta$ .
		$h. m. s.$	$^{\circ}$			$h. m. s.$	$^{\circ}$
15	12	19 52 38	21 55.0*	15	11½	19 59 52	21 52.2
12	8½	52 39	16 58.3	16	10½	59 54	17 47.9
15	10½	52 44	22 1.4	12	11	59 55	16 56.6
16	10	52 53	17 32.7	16	10½	19 59 55	17 49.7
16	10	53 5	17 33.0	12	12	20 0 3	17 4.2
12	11	53 47	16 49.6	15	10	0 20	21 51.4
12	9	53 49	16 54.6	16	10½	0 26	17 34.8
16	12	54 23	17 45.4	15	10	0 47	21 53.4
16	8.	54 30	17 45.6†	12	11	0 53	16 51.9
12	11½	54 33	17 9.7	16	10½	0 58	17 33.7
15	11½	54 73	22 2.0	15	11½	1 5	22 9.1
15	11	54 48	21 55.1	15	9	1 6	21 57.2
16	12	54 48	17 44.1	17	11	1 13	23 46.7
12	8	55 6	17 9.8	16	9	1 18	17 32.6†
15	12	55 17	21 53.8	12	10	1 46	17 7.8
16	10½	55 22	17 40.0	15	11	1 55	22 8.5
16	10	55 29	17 36.8	15	12	1 56	22 3.6
15	12	55 30	21 54.5	16	12	2 10	17 38.1
12	9	55 32	16 52.5	12	9	2 12	17 12.1
16	11	55 33	17 44.2	16	12	2 15	17 32.4
15	10½	55 47	22 1.2	16	11½	2 16	17 36.1
12	10	55 57	16 53.8	15	11	2 48	22 3.7
15	10	56 1	21 57.4	16	11	2 52	17 38.0
15	11½	56 58	22 9.5	12	10	2 55	16 59.4
12	11½	57 5	17 8.4	12	10½	3 6	17 9.7
15	12	58 2	22 5.8	15	10½	3 6	22 5.5
15	12	58 5	22 9.1	16	11	3 8	17 47.3
16	11	58 25	17 38.7	15	12½	3 19	22 6.9
16	8½	58 29	17 37.2†	15	12	3 19	22 7.9
12	12	58 43	17 9.8	16	10½	3 31	17 47.8
15	12	58 54	21 57.8	17	11½	3 33	23 49.1
12	10	59 6	17 8.5	16	10½	3 57	17 33.1
16	10	59 9	17 48.6	12	10	4 12	17 2.3†
16	12	59 27	17 49.6	16	10½	4 19	17 47.2
12	12	19 59 37	17 2.8	12	11	20 4 20	17 9.1

\* First of a group.

† M. C.

‡ (4).

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		h. m. s.		° ' "			h. m. s.		° ' "
15	9½	20 4 21		—22 3.1	16	10½	20 8 12		—17 39.4
15	8	4 26		21 53.0	12	11	8 24		17 2.0
15	10½	4 32		21 55.2	13	10½	8 26		21 39.6
16	10	4 32		17 46.6	17	10	8 27		23 44.3
16	12	4 40		17 47.1	15	11½	8 30		22 8.0
13	11½	4 43		21 41.4	12	10½	8 42		17 11.9
15	12	4 50		22 2.3	13	11	8 45		21 49.9:
13	12	4 51		21 47.0	15	12	9 32		21 58.3
15	12	4 57		22 1.9	15	12	9 40		21 54.6
15	11	5 3		21 53.5	13	10½	9 45		21 47.5
13	10	5 14		21 44.8	12	10½	10 2		17 9.4
16	9	5 42		17 32.9*	13	12	10 3		21 45.8
15	9	5 43		22 0.4	17	10	10 5		23 32.4
12	9½	5 47		17 3.5	15	10	10 19		22 6.6
13	12½	5 48		21 34.4	13	11½	10 21		21 45.1
17	11	5 54		23 38.3	15	10	10 21		22 1.1†
13	9½	5 56		21 38.1	17	11	10 23		23 46.1
16	11	6 8		17 49.2	16	9½	10 25		17 41.4†
16	10	6 25		17 48.3	12	11½	10 31		16 53.6
17	10½	6 39		23 49.1	16	10½	10 32		17 33.8
13	10½	6 42		21 48.8	13	9	10 33		21 37.9
15	8½	6 43		21 54.8	17	10½	10 38		23 46.3
16	11	6 45		17 46.5	16	9½	10 45		17 36.6
17	10	6 45		23 32.6	12	10	10 46		16 57.7
13 15	10½	6 50		21 48.7	17	10½	11 2		23 36.0
15	10½	7 12		21 51.3	13	10½	11 10		21 39.5
13	11	7 17		21 49.2	15	9½	11 10		22 2.7†
17	10½	7 21		23 44.1†	17	10½	11 20		23 37.2
17	11	7 34		23 46.7	13	12	11 40		21 49.8
13	10	7 35		21 46.6	17	10	11 41		23 33.3
16	11	7 39		17 45.3	15	10	11 46		21 54.1
15	11½	7 54		21 50.0	17	11	11 50		23 43.3
17	11½	8 0		23 42.7	16	10	11 54		17 46.5
12	11½	8 7		17 8.8	17	11	11 59		23 43.7
15	11½	20 8 9		—21 51.3	17	12	20 12 9		—23 43.6

\* M. C.

† N. of double.

‡ (4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		$^{\text{h. m. s.}}$	$^{\circ}$			$^{\text{h. m. s.}}$	$^{\circ}$
12	11 $\frac{1}{2}$	20 12 10	17 0.9	17	11	20 16 49	23 36.9
12	10 $\frac{1}{2}$	12 11	17 3.9	16	10	16 52	17 48.4
12	9	12 27	17 9.8	16	12	16 56	17 36.0
13	11 $\frac{1}{2}$	12 39	21 45.2	15	10 $\frac{1}{2}$	17 16	22 8.2
13 15	8	12 48	21 52.9	15	12	17 33	22 5.7
13	11 $\frac{1}{2}$	12 48	21 40.2	17	10	17 38	23 48.3
15	11	12 57	22 5.0	17	10	17 46	23 49.7
15	9 $\frac{1}{2}$	13 0	22 3.2	16	12	17 54	17 45.1
12	11 $\frac{1}{2}$	13 57	17 1.9	16	11	17 57	17 42.6
17	11	14 0	23 43.8	12	11	17 58	16 59.3
12	8 $\frac{1}{2}$	14 2	16 59.6	12	11 $\frac{1}{2}$	18 3	16 56.7
15	11	14 14	21 56.1	13	10 $\frac{1}{2}$	18 4	21 38.8
16	11 $\frac{1}{2}$	14 14	17 45.9	12	11 $\frac{1}{2}$	18 19	17 6.9
17	11 $\frac{1}{2}$	14 15	23 46.6	12	10	18 22	17 10.1
15	11 $\frac{1}{2}$	14 22	22 3.5	15	11 $\frac{1}{2}$	18 31	21 55.7
16	11 $\frac{1}{2}$	14 29	17 45.7	17	11 $\frac{1}{2}$	18 34	23 45.3
15	10	14 34	21 53.2	16	9	18 35	17 35.0*
17	11	14 41	23 47.7	15	12 $\frac{1}{2}$	18 53	21 54.5
13	9	14 44	21 48.2*	17	11 $\frac{1}{2}$	18 53	23 38.8
13	11	14 51	21 39.2†	16	9 $\frac{1}{2}$	18 54	17 33.3
15	11 $\frac{1}{2}$	14 58	21 55.6	13	11	19 1	21 35.3
13	9	15 21	21 38.8†	17	11 $\frac{1}{2}$	19 1	23 39.4
16	9 $\frac{1}{2}$	15 21	17 45.3*	15	11	19 8	21 56.2
17	11	15 24	23 37.3	12	12	19 32	17 8.4
15	12	15 26	21 54.1	16	11	19 41	17 42.5
12	11	15 37	17 4.1	15	11	19 43	22 4.0
17	9 $\frac{1}{2}$	15 43	23 44.8	12	11 $\frac{1}{2}$	19 56	17 9.8
13	10	15 49	21 40.0	15	10	19 58	21 57.9
12	11 $\frac{1}{2}$	15 58	17 6.1	16	11	20 9	17 44.7
15	12	16 4	21 56.3	15	10	20 11	21 54.9
17	9	16 17	23 39.7†	12	10 $\frac{1}{2}$	20 14	16 59.6
16	11 $\frac{1}{2}$	16 34	17 31.9	13	11 $\frac{1}{2}$	20 23	21 46.5
13	9	16 43	21 38.2	12	11	20 48	16 53.0
15	9 $\frac{1}{2}$	16 44	21 57.9	15	12 $\frac{1}{2}$	20 54	22 9.2
17	10 $\frac{1}{2}$	20 16 46	23 36.5	17	10	20 20 56	23 51.2

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
13	10	20 21 6	21 41.6	12	12	20 25 34	17 9.2
16	11	21 11	17 48.7	13	11	25 37	21 44.8
16	10	21 19	17 36.1	13	12	25 46	21 35.9
17	10	21 21	23 45.4	12	11½	25 49	17 10.0
16	9½	21 40	17 31.7	13	11	25 50	21 35.3
15	8½	21 41	22 9.0	15	10	25 59	21 56.5
13	10½	22 11	21 42.0	12	11½	26 17	17 5.1
15	12	22 21	21 56.0	13	12	26 26	21 49.4
12	11½	22 29	16 59.1	17	11	26 32	23 34.3
13	12½	22 33	21 34.0	15	12	26 33	22 2.7
16	11	22 37	17 37.4	17	11½	26 33	23 37.2
12	10	22 40	16 56.4	17	11½	26 41	23 36.4
15	12½	22 53	21 58.5	15	12	26 42	22 3.0
17	10	22 54	23 43.2*	12	11	26 49	17 1.5
17	11	23 7	23 42.5*	13	10½	26 56	21 46.0
16	11½	23 13	17 44.6	15	11	26 58	21 55.7
17	9½	23 18	23 39.6	13	11½	27 12	21 46.1
16	12½	23 23	17 44.9	15	10	27 15	22 4.9
15	12	23 33	21 55.8	12	11	27 18	17 6.0
15	11	23 49	21 57.5	17	11½	27 31	23 50.3
15	11	23 49	22 6.5	13	11½	27 33	21 44.3
16	11	23 58	17 46.0	13	11	27 35	21 32.9
13	11½	24 15	21 46.6	16	9	27 45	17 31.9
17	10	24 21	23 41.7	17	12	28 2	23 46.9
15	11	24 36	22 1.2*	15	12	28 24	22 7.9
15	9	24 42	21 55.7	16	11	28 29	17 43.6
15	11½	24 51	21 55.5	13	10½	28 35	21 37.2
16	11½	24 58	17 44.0	15	11½	28 37	21 59.8
17	10½	24 58	23 39.8*	13	11½	28 44	21 39.3
17	11½	25 1	23 49.4	12	11½	28 47	17 4.9
12	12	25 2	17 4.1	17	11½	28 52	23 47.5
16	11	25 3	17 45.6	15	8½	28 53	21 51.6
12	12	25 13	17 8.7	12	10½	29 3	17 6.2
27	8½	25 17	23 45.5†	17	11	29 14	23 45.6
15	11	20 25 24	22 5.0	12	12	20 29 18	17 6.9

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
15	9 $\frac{1}{2}$	20 29 23	22 5.0	15	12	20 33 54	22 10.0
17	11	29 29	23 46.7	16	12	34 3	17 44.3
12	11 $\frac{1}{2}$	29 31	17 7.3	16	12	34 8	17 44.0
16	11 $\frac{1}{2}$	29 35	17 42.3	13	9	34 51	21 38.0
15	10	29 48	21 53.8	15	10 $\frac{1}{2}$	34 56	22 7.6
12	11	30 2	16 57.9	15	9 $\frac{1}{2}$	35 4	22 1.5†
13	10	30 16	21 36.8	13	8 $\frac{1}{2}$	35 6	21 46.0
17	11	30 16	23 38.6	15	12	35 6	22 7.1
17	11 $\frac{1}{2}$	30 18	23 50.9	13	10	35 7	21 48.9
12	10 $\frac{1}{2}$	30 39	16 58.6	15	10	35 18	21 52.6
17	12	30 43	23 48.3	13	7 $\frac{1}{2}$	35 30	21 43.7
13	10 $\frac{1}{2}$	30 48	21 33.6	15	9	35 51	22 8.4
17	9 $\frac{1}{2}$	31 14	23 33.2	13	8 $\frac{1}{2}$	36 34	21 41.4†
17	9 $\frac{1}{2}$	31 16	23 31.3	15	11 $\frac{1}{2}$	36 37	22 4.6
17	12	31 22	23 34.2	15	11 $\frac{1}{2}$	36 57	22 5.7
13	11 $\frac{1}{2}$	31 32	21 34.9	15	12	37 9	22 5.2
15	10 $\frac{1}{2}$	31 32	22 7.7	13	12	37 35	21 49.8
15	10	31 34	22 5.7	13	11 $\frac{1}{2}$	38 1	21 47.5
13	9 $\frac{1}{2}$	31 44	21 44.5	13 15	11 $\frac{1}{2}$	38 1	21 53.1
15	11 $\frac{1}{2}$	31 47	22 3.8	15	11 $\frac{1}{2}$	38 46	22 5.8
15	9	31 48	22 8.9	15	11 $\frac{1}{2}$	38 50	21 59.3:
16	11 $\frac{1}{2}$	32 3	17 35.0	13	12	39 12	21 36.4
17	11 $\frac{1}{2}$	32 30	23 30.3	13	12	39 19	21 37.4
13	10 $\frac{1}{2}$	32 36	21 35.5	13	10	39 23	21 49.4†
15	11 $\frac{1}{2}$	32 37	21 56.0	13	11 $\frac{1}{2}$	39 24	21 34.5
15	11	32 45	22 7.5	15	9 $\frac{1}{2}$	39 39	21 53.8
13	11 $\frac{1}{2}$	32 56	21 35.3	13	12 $\frac{1}{2}$	40 24	21 49.2
13	11 $\frac{1}{2}$	33 4	21 27.7	13	11	41 2	21 44.7
17	8 $\frac{1}{2}$	33 4	23 39.9*	15	10 $\frac{1}{2}$	41 26	22 4.8
17	12	33 22	23 47.5	15	10 $\frac{1}{2}$	42 3	22 7.2
13 15	10	33 24	21 48.1	13	11 $\frac{1}{2}$	42 17	21 33.6
17	9	33 24	23 31.9	15	10 $\frac{1}{2}$	42 28	21 55.9
13	10 $\frac{1}{2}$	33 32	21 45.4	13	9	42 49	21 34.8
16	12	33 33	17 34.4	13	10	42 53	21 41.5
13	12	20 33 47	21 50.3	15	10 $\frac{1}{2}$	20 42 58	21 55.1

Days. Obs. c	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
15	II	20 43 56	-21 59.1	15	10½	20 56 37	-22 10.3
13	10½	44 25	21 50.1	15	12	56 51	22 5.3
15	11½	44 35	22 7.5	15	12	58 12	21 55.2
13	II	45 1	21 44.0	23	11½	58 34	12 12.9
13	11½	45 36	21 48.5	23	II	58 57	12 10.9
15	9	45 45	22 1.4*	15	10	59 1	22 6.8
13	11½	45 46	21 44.2	23	11½	59 5	12 14.2
15	10	45 51	22 2.5	12	9½	59 24	13 54.8
13	11½	46 1	21 49.8	15	9	59 24	21 48.3
13	9½	46 45	21 40.8	12	11	59 36	13 52.3
13	II	47 26	21 43.7	15	11½	20 59 37	21 57.8
15	12	47 54	22 3.4	17	II	21 0 3	12 50.5
13	II	48 22	21 48.8	12	11½	0 10	14 7.5
13	11½	48 34	21 49.6	23	II	0 27	12 21.7
13	9	49 14	21 47.4	12	9	0 33	13 55.6
13 15	10	49 40	21 48.4	16	II	0 59	13 46.7
13	10	50 5	21 37.0	15	10½	1 5	22 5.9
13	II	50 9	21 39.3	16	II	1 5	13 46.3
13	10½	50 22	21 50.5	16	10	1 17	13 35.1
13	II	50 24	21 39.6	23	9½	1 24	12 12.6
15	10½	50 57	22 9.1	15	10	1 25	22 10.9
15	9½	51 18	22 10.9	17	9½	1 35	12 32.4
13	10½	51 34	21 47.5	16	10½	1 39	13 43.5
15	II	52 12	21 57.5†	16	10½	1 49	13 47.1
15	II	52 18	22 1.6*	17	10½	1 53	12 39.0
15	9½	52 37	22 1.7*	15	12	1 59	21 52.3
13	9	53 29	21 42.4	17	11½	2 15	12 39.4
15	9	53 30	21 54.8†	15	12	2 16	21 52.6
15	8	53 34	21 59.8	12	10	2 18	13 55.8
15	8½	54 46	22 7.5	17	10	2 21	12 36.2
15	11½	55 0	21 51.5	23	11½	2 30	12 28.6
15	12	55 33	21 55.3	16	10	3 1	13 43.2
13	11½	55 35	21 44.0	13	10	3 20	18 9.7
15	II	55 41	21 53.4	15	11½	3 20	22 3.2
15	II	20 56 0	-22 6.1	15	10½	21 3 26	-21 52.6

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
17	11 $\frac{1}{2}$	21 3 27			-12 34.1	15	8 $\frac{1}{2}$	21 6 40			-21 54.6
15	11 $\frac{1}{2}$	3 28			21 57.4	13	11	6 55			18 9.8
13	11 $\frac{1}{2}$	3 30			18 7.7	16	10 $\frac{1}{2}$	6 56			13 44.6
16	9 $\frac{1}{2}$	3 37			13 34.3	12	10 $\frac{1}{2}$	7 0			13 55.6
17	11 $\frac{1}{2}$	3 43			12 34.1	12	10	7 7			13 56.2
15	10 $\frac{1}{2}$	3 55			22 8.9	13	10 $\frac{1}{2}$	7 11			17 52.8
17	10 $\frac{1}{2}$	3 57			12 32.0	16	10	7 29			13 42.6*
23	11	4 4			12 18.1	23	11	7 54			12 28.7
23	10 $\frac{1}{2}$	4 4			12 27.7	17	11 $\frac{1}{2}$	8 0			12 37.4
17	8	4 10			12 31.5	17	11	8 18			12 37.6
12	11 $\frac{1}{2}$	4 13			13 52.0	23	11 $\frac{1}{2}$	8 23			12 28.6
23	9	4 16			12 25.8	13	11 $\frac{1}{2}$	8 25			18 8.9
15	9	4 29			21 53.7	23	11	8 31			12 29.0
16	11 $\frac{1}{2}$	4 32			13 43.8	13	11 $\frac{1}{2}$	8 32			18 4.1
17	12	4 39			12 49.5	13	9	8 34			17 52.1
13	10 $\frac{1}{2}$	4 40			18 5.6	23	12	8 54			12 13.2
12	11	4 49			13 52.1	17	11	9 1			12 46.2
12	10	4 58			14 10.3	23	11	9 7			12 12.5
13	10 $\frac{1}{2}$	5 0			18 2.4	23	11 $\frac{1}{2}$	9 23			12 18.3
17	11 $\frac{1}{2}$	5 11			12 44.1	16	10 $\frac{1}{2}$	9 28			13 44.4
17	12	5 28			12 45.3	23	10	9 43			12 17.8
16	11	5 32			13 33.0	17	10 $\frac{1}{2}$	9 46			12 37.4
15	10	5 40			22 2.6*	16	11	9 59			13 43.1
12	11	5 43			14 10.3	16	12	10 9			13 38.2
13	9	5 46			17 53.0	13	10	10 10			18 9.4
23	11 $\frac{1}{2}$	5 49			12 14.9	17	11	10 12			12 34.2
15	12	5 51			21 53.7	16	11	10 24			13 45.5
16	11	5 59			13 31.5	17	10 $\frac{1}{2}$	10 25			12 34.0
23	10 $\frac{1}{2}$	6 6			12 16.6	23	12	10 45			12 12.8
17	11	6 23			12 43.8	17 23	10	10 54			12 33.1
23	9 $\frac{1}{2}$	6 28			12 26.8	17 23	10	11 4			12 32.7
23	10 $\frac{1}{2}$	6 33			12 18.1	13	12	11 6			17 53.7
13	8	6 34			18 11.4	16	10	11 7			13 50.3
12	11	6 35			14 7.5	13	12	11 11			17 54.4
23	10	21 6 35			-12 29.2	23	11 $\frac{1}{2}$	21 11 39			-12 14.1



Days. Obs. †	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			°			h. m. s.			°
16	10	21 11 48			13 47.9	17	12½	21 15 50			12 42.1
17	12	12 4			12 35.9	16	11½	15 55			13 43.2
12	11½	12 9			14 6.2	13	12	16 18			17 56.4
17	11	12 10			12 31.8	16	11½	16 21			13 42.7
12	11½	12 22			13 54.5	23	10	16 41			12 13.4
17	11	12 39			12 37.0	23	12	16 42			12 24.4
17	11½	12 40			12 39.7	17	11½	17 13			12 35.1
23	9½	12 45			12 18.0	12	12	17 33			14 11.3
17	11	12 48			12 38.1	23	11½	17 42			12 16.4*
23	10	13 0			12 19.1	16	10	17 44			13 42.5
13	12	13 10			18 5.8	13	10½	17 58			18 3.9
16	11	13 14			13 45.4	16	11½	18 5			13 46.3
16	10½	13 28			13 37.1	16	11	18 9			13 45.4
16	10	13 30			13 42.3	13	10½	18 11			18 5.1
13	11	13 38			18 5.0	23	11	18 17			12 17.9
12	11	13 42			14 1.0	23	11	18 52			12 21.6
23	10	13 48			12 18.9	16	11½	19 3			13 47.1
13	12	13 49			17 52.2	16	12½	19 24			13 48.0
17	11	13 53			12 49.8	23	11	19 35			12 22.9
12	11½	14 3			14 9.4	16	11	19 42			13 48.0
16	11½	14 18			13 50.0	12	11	19 49			14 5.0
13	12	14 29			17 51.6	16	11½	19 52			13 45.5
17	12	14 42			12 49.3	12	11	20 9			13 59.9
16	11½	14 48			13 30.9	13	11	20 26			17 57.6
12	11	14 51			14 3.5	16	9	20 31			13 32.0
23	9½	15 0			12 17.3	13	11	20 50			18 8.1
13	11	15 2			18 4.6	12	11	21 13			13 59.8
17	11	15 14			12 48.7	16	9½	21 13			13 37.9
23	12	15 17			12 26.5	16	10½	21 23			13 33.7
17	10	15 24			12 34.3	17	9½	21 44			12 34.5
12	11	15 32			14 0.1	23	10½	22 3			12 22.4
13	10½	15 34			18 9.8	16	12	22 18			13 45.5
13	11½	15 37			18 1.0	12 16	10	22 30			13 52.3
23	12	15 37			12 23.5	16	11	22 33			13 45.7
12	11	21 15 42			14 4.5	23	12	21 22 34			12 23.9

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
23	10	21 22 36			12 26.2	16	12	21 30 35			13 36.7
23	11 $\frac{1}{2}$	23 13			12 16.5	15	10 $\frac{1}{2}$	30 38			9 51.8
12	10	23 30			14 9.1	16	11	30 57			13 38.1
16	10 $\frac{1}{2}$	23 37			13 43.4	15	11	31 2			10 9.1
17	11 $\frac{1}{2}$	23 40			12 36.8	16	10	31 9			13 46.0
23	11	23 40			12 26.7	16	12	31 23			13 44.5
23	10	23 49			12 24.5	15	10	31 26			9 52.3
16	9	24 3			13 42.2*	16	11 $\frac{1}{2}$	31 48			13 42.9
16	10	24 6			13 49.7	15	9	31 59			9 55.5
17	11	24 10			12 43.8	15	11	32 17			9 57.4
17	11	24 12			12 35.0	16	11	32 28			13 38.0
23	10	24 19			12 24.4	13	10	32 29			17 56.8
17	11	24 26			12 48.0	15	11	32 41			10 0.9
13	10	24 36			17 50.8	15	10 $\frac{1}{2}$	32 41			10 7.5
16	11	24 45			13 46.6	13	10	32 48			18 8.0
16	11 $\frac{1}{2}$	25 1			13 46.9	15	10 $\frac{1}{2}$	32 51			10 7.2
16	11 $\frac{1}{2}$	25 13			13 47.4	15	10 $\frac{1}{2}$	32 54			10 0.0
17	11 $\frac{1}{2}$	25 19			12 50.6	15	10	33 31			10 3.8†
16	9 $\frac{1}{2}$	25 33			13 36.7	16	9 $\frac{1}{2}$	33 32			13 39.9*
13	10 $\frac{1}{2}$	25 48			17 55.1	12	10	33 34			13 55.6
23	10	25 52			12 26.0	16	11	33 38			13 44.7
16	10	26 11			13 36.7	16	10	33 59			13 42.3*
13	12	26 21			18 4.3	13	10	34 5			18 4.1
12	11	27 20			13 52.6	16	11	34 29			13 39.2
15	11	27 31			9 48.0	16	11	34 31			13 39.0
15	10	27 40			9 58.6	12	10 $\frac{1}{2}$	34 33			14 8.9
13	9 $\frac{1}{2}$	28 25			18 9.8	15	9 $\frac{1}{2}$	34 36			10 8.9
13	10	28 33			18 4.7	16	11	34 37			13 38.2
13	9	28 34			18 8.1	13	10	34 42			17 55.5
15	11	28 50			9 51.3	15	10 $\frac{1}{2}$	34 54			10 12.1
15	11	29 40			9 51.9	12	10	35 9			13 57.0
12	11	29 42			14 6.9	15	11	35 18			9 52.4
12	9 $\frac{1}{2}$	29 47			14 7.6	15	10 $\frac{1}{2}$	35 29			9 51.1
15	10	29 50			9 57.6	15	11 $\frac{1}{2}$	36 36			10 4.2
15	11	21 29 52			—9 52.1	12	11	21 36 40			—13 57.0

Days. Obs.	Mag.	$\alpha$		$\delta$	Days. Obs.	Mag.	$\alpha$		$\delta$
		<small>h. m. s.</small>		<small>°</small>			<small>h. m. s.</small>		<small>°</small>
15	12	21 37 6		-9 56.7	15	10	21 54 33		-9 53.5
12	11	37 13	14	4.0	15	11	55 31	10	2.6
15	10	37 13	9	57.7	15	12	55 40	9	55.7
16	11	38 24	13	45.7	15	12	55 43	9	53.4
15	12	39 17	10	5.8	15	11½	55 49	9	56.0
15	10½	39 40	10	6.7	15	10	57 11	10	5.2
12	11	39 53	13	53.7	16	11½	57 19	11	37.6
15	10	40 6	9	54.2	15	11	57 35	9	53.1
15	10½	40 53	10	6.3	16	11	57 37	11	49.5
15	11	41 46	9	59.1	16	11	57 48	11	47.4†
15	12½	41 58	10	2.8	16	10½	59 4	11	42.2*
15	11½	42 23	10	6.9	15	10½	21 59 14	9	54.6
15	9	42 59	10	9.3	15	10	22 0 8	10	5.8
15	11½	43 57	10	2.7	15	11	0 12	9	53.2†
15	11½	44 0	10	4.8	15	11	0 50	10	6.7
15	11	44 36	10	1.5	18	10½	0 55	13	47.3
15	11½	45 0	10	4.9	15	11	0 57	10	6.9
15	11½	45 35	10	1.7	15	11	1 10	9	51.5
15	11½	45 40	10	3.4	15	12	1 58	9	54.2
15	12	46 7	9	56.1	15	11½	1 58	9	47.6
15	10½	46 11	9	53.2	15	10	2 58	10	8.8
15	12	47 39	10	6.6	18	10½	3 8	13	35.7
15	11½	47 41	10	8.7	15	10	3 15	10	4.9
15	11	47 47	10	0.6*	15	11½	3 55	9	56.8
15	11½	49 6	9	51.8	15	10½	4 3	10	7.7
15	11½	49 10	9	56.5	18	10	4 16	13	44.7
15	11	49 31	10	9.5	18	11	5 0	13	44.1
15	11½	50 25	9	49.7	15	11	5 1	10	7.9
15	11	50 39	10	1.8	17	12	5 40	13	52.8
15	10	51 2	9	47.3	15	11	5 49	9	56.5
15	9½	52 5	9	53.6	15	11½	6 21	9	54.3
15	10	52 49	10	0.7	16	9½	7 20	11	44.8
15	10	53 3	9	50.4	15	11½	7 24	9	54.8
15	12	53 8	9	56.1	15	11½	8 2	9	58.1
15	11½	21 54 23	-10	6.4	15	11½	22 8 23	-9	57.9

Days. Obs.	Mag.	$\alpha$		$\delta$	Days. Obs.	Mag.	$\alpha$		$\delta$
		h. m. s.		$^{\circ}$			h. m. s.		$^{\circ}$
16	11 $\frac{1}{2}$	22 8 37	—11	39.1	15	11	22 17 50	—10	9.8
15	11 $\frac{1}{2}$	9 43	9	57.1	16	11	17 58	11	44.1
16	11 $\frac{1}{2}$	9 48	11	36.3	17	12	18 34	13	53.2
16	11 $\frac{1}{2}$	9 53	11	36.6	15	12	18 46	10	6.8
15	12	9 58	9	54.1	17	11 $\frac{1}{2}$	19 1	14	9.3
16	12	10 14	11	35.6	15	11	19 8	9	52.8
16	12	10 19	11	35.7	15	11 $\frac{1}{2}$	19 11	10	4.7
15	10	10 59	10	2.1	16	11	19 17	11	41.9
16	10	11 17	11	32.5	16	10	19 20	11	36.3
15	12	11 <sup>h</sup> 19	9	54.9	15	12	19 22	9	57.9
15	12	11 33	10	2.1	18	12	19 26	13	39.3
16	11 $\frac{1}{2}$	12 27	11	36.1	15	11 $\frac{1}{2}$	19 27	9	58.4
15	11 $\frac{1}{2}$	12 41	9	47.5	16	11 $\frac{1}{2}$	19 27	11	40.1
15	10 $\frac{1}{2}$	12 48	10	3.4	18	11 $\frac{1}{2}$	19 36	13	43.8
17	12	12 54	13	49.4	17	11 $\frac{1}{2}$	20 13	14	7.2
18	11 $\frac{1}{2}$	13 19	13	49.8	17	11 $\frac{1}{2}$	20 41	14	7.9
17 18	11	13 53	13	48.1	17	11 $\frac{1}{2}$	20 50	13	58.8
15	10 $\frac{1}{2}$	13 55	10	5.7	15	11	20 56	9	56.7
15	9 $\frac{1}{2}$	14 16	10	6.4	16	9 $\frac{1}{2}$	20 56	11	39.6
15	11	14 38	9	54.2	17	11 $\frac{1}{2}$	21 10	14	3.2
17	11 $\frac{1}{2}$	14 46	13	54.0	15	12	21 23	10	5.9
15	11 $\frac{1}{2}$	14 49	9	51.4	17	10 $\frac{1}{2}$	21 30	14	1.6*
17	11 $\frac{1}{2}$	15 4	13	51.6	15	11 $\frac{1}{2}$	21 42	10	5.3
17	11 $\frac{1}{2}$	15 13	13	52.7	18	10 $\frac{1}{2}$	21 46	13	47.9
15	12	15 23	10	7.6	17	11	21 48	13	58.2
17	10 $\frac{1}{2}$	15 35	13	53.3	16	11	22 11	11	33.2
18	11	15 50	13	34.5	18	12	22 50	13	44.2
15	11	15 56	10	4.4	18	11 $\frac{1}{2}$	22 59	13	48.6
16	12 $\frac{1}{2}$	16 1	11	38.3	16	10	23 13	11	47.4
15	10	16 54	10	4.1	16	12	23 17	11	44.3
15	10 $\frac{1}{2}$	16 54	10	5.2	18	12	23 22	13	44.4
18	10	17 4	13	46.3	15	10 $\frac{1}{2}$	23 29	10	1.9*
18	12	17 7	13	42.4	18	10	23 29	13	43.1
16	12	17 27	11	45.7	15	9	23 38	10	2.8
16	11 $\frac{1}{2}$	22 17 28	—11	38.4	17	11	22 23 43	—13	52.0

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
16	10 $\frac{1}{2}$	22 23 53	—11	38.8	15	11 $\frac{1}{2}$	22 30 49	—9	54.4		
18	11 $\frac{1}{2}$	24 12	13	37.0	16	10	31 7	11	46.5		
18	11	24 45	13	31.3	17	12 $\frac{1}{2}$	31 23	13	57.6		
17	11	25 1	13	57.8*	17	12 $\frac{1}{2}$	31 33	13	58.3		
17	10 $\frac{1}{2}$	25 3	13	58.2†	16	11 $\frac{1}{2}$	31 36	11	49.6		
18	11	25 7	13	39.0†	16	12	31 48	11	39.5		
17	10 $\frac{1}{2}$	25 11	14	8.0	15	11	32 4	9	51.4		
17	10	25 47	13	55.2	17	12	32 54	13	53.1		
18	10	25 51	13	44.0	17	11	32 59	13	52.7		
18	10 $\frac{1}{2}$	25 52	13	30.8	17	12 $\frac{1}{2}$	33 20	13	56.7		
15	9 $\frac{1}{2}$	26 40	9	54.6	16	11*	33 41	11	52.2		
16	12	26 44	11	33.2	17	11	34 2	14	3.4		
16	10 $\frac{1}{2}$	26 46	11	42.5	16	11 $\frac{1}{2}$	34 21	11	49.2		
16	10 $\frac{1}{2}$	26 47	11	43.3	15	11 $\frac{1}{2}$	34 22	10	5.2		
16	10 $\frac{1}{2}$	26 49	11	40.2	17	10	34 42	13	53.8		
16	10 $\frac{1}{2}$	27 2	11	32.8	17	12	34 59	13	52.5		
15	9 $\frac{1}{2}$	27 6	10	0.9†	16	10 $\frac{1}{2}$	35 1	11	43.3		
18	11	27 37	13	39.8	17	11	35 10	13	54.5		
17	12	27 38	13	52.5	16	10 $\frac{1}{2}$	35 24	11	34.4		
17	12	27 47	13	51.7	15	11	35 25	9	57.6		
17	10	27 50	13	48.0:	17	11	35 29	13	48.4		
18	10	28 16	13	42.8	15	11 $\frac{1}{2}$	35 37	10	2.4		
16	11 $\frac{1}{2}$	28 34	11	44.9	17	11	35 39	13	56.9		
17	10 $\frac{1}{2}$	28 36	14	6.8	15	10 $\frac{1}{2}$	35 48	9	54.6		
17	12	28 47	14	6.0	17	11	35 58	14	7.6		
16	10	28 52	11	49.4	17	10	36 26	13	55.6		
15	12	28 54	10	6.5	16	10	36 28	11	42.0		
16	10	29 3	11	48.8	17	10	36 38	13	51.0		
15	11	29 40	9	53.5	15	10	36 46	9	48.1		
15	11	29 47	10	4.5	15	10	37 1	10	1.6		
16	10 $\frac{1}{2}$	29 56	11	43.4	17	12	37 2	13	55.6		
15	11	30 18	10	3.6	16	10 $\frac{1}{2}$	37 41	11	42.1		
16	11	30 36	11	46.2	16	12	37 43	11	50.0		
16	11	30 39	11	45.4	16	11 $\frac{1}{2}$	38 56	11	33.8		
15	10	22 30 49	—9	55.7	15	8 $\frac{1}{2}$	22 39 6	—10	5.0		

\*N. p. of double.

†S. p. of double.

‡(4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' ."</small>			<small>h. m. s.</small>	<small>° ' ."</small>
15	9½	22 39 8	10 1.6*	16	12	22 48 37	11 35.3
16	11½	39 16	11 33.1	15	12	48 43	9 52.7
15	11½	39 22	10 6.7	15	11	48 48	10 2.0*
15	11½	39 26	10 5.7	16	11½	48 53	11 35.8
16	11	39 26	11 34.7	16	11½	49 17	11 50.1
16	12	39 53	11 33.5	15	11	49 32	9 53.9
16	11½	40 6	11 34.4	16	11	49 51	11 40.2
15	11	40 24	10 7.7	15	11	50 10	9 52.3
16	10	40 28	11 29.7	16	11½	50 27	11 40.4*
15	9	40 35	9 51.0	15	11	50 38	9 53.6
15	10½	40 45	10 3.2	15	9½	51 5	9 53.8
16	10½	41 24	11 39.3	18	11	51 7	7 58.2
16	11½	41 42	11 40.4	15	11½	51 22	9 53.6
16	9	41 43	11 46.3	15	10½	51 24	10 2.5
15	9	41 50	9 50.9	15	10	52 0	9 56.9
15	10½	42 9	10 1.3	16	11	52 11	11 49.7
15	12	42 11	9 52.7	15	10	52 46	10 9.8
16	11	42 36	11 34.8	16	10½	53 1	11 49.0
15	11½	42 43	10 8.6	15	10½	53 45	10 2.2
15	11	43 14	10 7.6	16	10½	53 56	11 47.6
16	9½	43 35	11 46.2	15	9½	54 5	10 3.2
15	11½	43 47	10 6.9	16	11½	54 7	11 45.4
15	11	44 4	10 6.7	15	11	54 8	9 48.5
15	11½	44 9	10 6.7	15	11	54 30	10 9.2
16	11½	44 19	11 31.6	16	11	55 14	11 39.0
16	11	44 28	11 33.0	18	11	55 16	7 58.6†
15	10½	44 59	9 59.1	16	10	55 19	11 49.7
15	11	45 15	10 1.8	15	11½	55 20	10 9.1
16	9½	45 19	11 28.4	16	10	55 21	11 52.5
15	9½	46 14	10 11.2	16	11	55 28	11 42.8*
16	11½	46 22	11 45.5	15	11	55 32	9 59.4*
16	11½	46 53	11 38.4	16	11	56 18	11 43.0
15	10½	47 29	9 50.6	16	11	56 45	11 46.2
16	11½	47 49	11 35.7	17	10½	56 51	8 29.2
15 •	11	22 48 37	10 2.1*	15	11	22 57 28	10 8.3

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.						h. m. s.			
15	10 $\frac{1}{2}$	22 57 33	—10	2.0	15	11	23 3 37	—10	7.2		
15	10 $\frac{1}{2}$	57 58	10	3.2	18	10	4 27	7	52.3		
16	11	58 5	11	44.3	17	12	4 29	8	12.5		
15	9	58 24	10	4.9	18	11	4 40	8	7.5		
16	10 $\frac{1}{2}$	58 58	11	48.5	17	12	4 41	8	12.1		
18	11	59 2	7	54.5	17	12	4 50	8	15.6		
17	11	59 4	8	29.7	18	10	4 59	7	52.0		
17	10 $\frac{1}{2}$	22 59 49	8	22.7	18	11	5 10	8	1.7		
16	12	23 0 0	11	33.8	18	10 $\frac{1}{2}$	5 20	8	7.4		
17	12 $\frac{1}{2}$	0 8	8	12.0	18	11	5 42	7	51.4		
16	10 $\frac{1}{2}$	0 9	11	39.5	17	10 $\frac{1}{2}$	5 53	8	28.6		
16	11 $\frac{1}{2}$	0 21	11	38.8	17	10 $\frac{1}{2}$	6 17	8	15.4		
18	12	0 23	8	4.3	17	9 $\frac{1}{2}$	6 31	8	29.8		
15	10	0 38	9	56.7	18	11 $\frac{1}{2}$	6 46	7	58.1		
18	9	0 41	8	3.5	18	10 $\frac{1}{2}$	7 1	7	53.8		
18	11 $\frac{1}{2}$	0 43	8	4.3	17	8	7 3	8	31.1		
18	12	0 51	8	4.3	17	10	7 10	8	15.6		
17	10	1 1	8	28.3	18	9 $\frac{1}{2}$	7 24	8	4.0		
17	10 $\frac{1}{2}$	1 13	8	19.0	18	11	7 24	8	6.3		
16	10	1 25	11	32.8	17	10 $\frac{1}{2}$	8 28	8	13.3		
15	11	1 47	9	59.0*	17	9 $\frac{1}{2}$	8 59	8	24.4		
17	11	2 22	8	27.6	17	12	10 18	8	18.7		
15	11	2 25	9	57.3	18	11	11 11	7	51.4		
15	10 $\frac{1}{2}$	2 48	10	4.1	18	11 $\frac{1}{2}$	11 12	8	8.1		
17	11	2 57	8	23.9	17	12 $\frac{1}{2}$	11 36	8	24.2		
17	12 $\frac{1}{2}$	2 57	8	27.7	17	11	11 43	8	27.4		
18	12	2 57	8	6.8	17	12	12 1	8	21.3		
17	9 $\frac{1}{2}$	3 5	8	27.2	18	12	12 5	7	52.3		
16	12	3 11	11	39.5	18	10 $\frac{1}{2}$	12 7	7	54.9		
16	10	3 11	11	45.5	18	11	12 8	8	11.4		
18	10 $\frac{1}{2}$	3 18	8	7.2	17	10 $\frac{1}{2}$	12 45	8	18.5		
13	12	3 32	7	53.3	18	11 $\frac{1}{2}$	12 51	8	3.2		
16	12	23 3 36	—11	45.5	18	11	23 13 27	—7	57.2		

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
18	8	23 13 29	-7 50.7	17	12 $\frac{1}{2}$	23 22 44	-8 12.4
17	12 $\frac{1}{2}$	14 7	8 23.5	18	10	22 46	8 6.3
17	12	14 19	8 18.0	17	12 $\frac{1}{2}$	23 12	8 13.9
18	9	14 44	8 3.8	18	12	23 15	8 9.3
17	12	15 23	8 27.0	17	11 $\frac{1}{2}$	23 55	8 13.6
18	12	15 30	8 7.0	17	12	23 55	8 29.5
18	11	15 46	8 4.8	18	11	23 57	7 53.3
18	11	16 4	8 1.6*	18	11 $\frac{1}{2}$	24 22	8 2.1
17	11 $\frac{1}{2}$	16 19	8 14.7	17	12	24 54	8 30.4
17	11	16 <sup>h</sup> 34	8 15.6	17	12	25 7	8 29.1:
18	10	17 10	8 9.0	18	11 $\frac{1}{2}$	25 22	8 9.5
17	11	17 11	8 9.1	18	12 $\frac{1}{2}$	25 42	8 9.1:
18	9	17 23	7 48.6	18	11 $\frac{1}{2}$	25 55	8 7.8
18	12	17 24	8 2.6	17	11 $\frac{1}{2}$	26 4	8 24.0
17	12	17 46	8 12.9	17	12	26 9	8 16.1
17	11	17 54	8 16.3	17	12	26 28	8 18.1
17	11 $\frac{1}{2}$	18 5	8 27.1	17	12	26 30	8 22.9
18	9 $\frac{1}{2}$	18 21	7 57.7†	18	9 $\frac{1}{2}$	27 47	7 58.9‡
17	11	18 52	8 15.1	18	11 $\frac{1}{2}$	27 59	7 58.9§
17	11 $\frac{1}{2}$	19 3	8 12.8	17	12	28 38	8 13.5
18	10	19 11	7 51.8	17	12	28 39	8 11.7
18	9	19 52	7 47.6	17	12	28 46	8 12.3
18	9 $\frac{1}{2}$	20 48	7 49.4	18	10	29 3	7 58.7‡
18	12	20 58	7 58.5	17	11	29 36	8 17.7
17	9	21 11	8 13.6	18	11 $\frac{1}{2}$	29 58	8 6.3
17	12	21 14	8 12.6	18	11	30 50	7 47.6
18	12	21 22	7 50.9	18	11 $\frac{1}{2}$	30 52	7 52.9
18	12	21 28	7 48.6	18	11 $\frac{1}{2}$	30 53	8 2.1
17	11	21 35	8 19.6	17	10	31 45	8 20.7
17	11	22 0	8 10.4	17	10 $\frac{1}{2}$	31 56	8 21.4
18	10	22 6	8 12.1	17	10	32 51	8 25.1
18	10 $\frac{1}{2}$	22 11	8 6.3	18	10 $\frac{1}{2}$	32 56	8 0.4
17	12 $\frac{1}{2}$	23 22 24	-8 12.0	18	12	23 33 1	-8 8.6

\* S. J. of double.

† N. p. of a close double.

‡ (4).

§ Double.



Days Obs.	Mag.	$\alpha$ .	$\delta$ .	Days Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
18	12	23 33 6	-8 5.1	18	12	23 35 14	-7 57.6
17	11	34 5	8 28.2	17	9½	35 20	8 20.0
17	12	34 16	8 22.4	18	10	35 35	8 4.7
17	10	34 16	8 27.3	17	11	23 35 56	-8 9.7
18	10	23 34 56	-8 2.2	.			

NOTES.—12th—Between  $\alpha$  20h. 59m. and 21h. 40m. Moon troublesome, and some haze in the south.

13th—Between  $\alpha$  20h. 4m. and 20h. 56m. This set good. Moon troublesome during the last ten minutes.

„ Between  $\alpha$  21h. 3m. and 21h. 35m., good sky, but strong moonlight.

15th—Between  $\alpha$  21h. 27m. and 23h. 4m. Moon troublesome for the last half-hour. Fog has risen.

18th—At  $\alpha$  22h. 28m., clouds.

„ At  $\alpha$  23h. 35m., hazy; fog rising.

23rd—Stopped by fog.

# APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

## 597 STARS NEAR THE ECLIPTIC,

OBSERVED IN OCTOBER, 1851, AT MARKREE.

Days Obs.	Mag.	$\alpha$ .	$\delta$ .	Days Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
1	10½	20 29 28	-14 5.4	1	10½	20 33 26	-13 53.0
1	10½	29 40	14 4.7	1	11	33 50	14 9.8
1	10	29 50	13 54.1	1	11	34 5	14 9.3
1	10½	30 9	13 54.7	1	11	34 14	13 51.5
1	10½	30 58	14 1.1	1	10	35 18	13 58.2*
1	12	31 0	14 11.9	1	10½	35 57	13 56.4
1	10½	31 8	14 0.9	1	10½	35 59	13 55.7
1	11	31 42	14 7.8	1	10	37 5	13 54.9
1	11	33 1	14 4.2	1	11	37 14	14 5.8
1	10½	20 33 24	-14 4.3	1	11½	20 37 32	-13 56.7

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	°			h. m. s.	°
I	10	20 38 33	14 12.6	II	II	21 4 35	13 24.8
I	10½	38 57	14 0.1	I3	II½	4 45	12 7.9
I	9½	39 37	14 7.5	II	9	4 55	13 24.2
I	9	40 0	14 2.3	I	12½	5 21	12 12.7
I	8½	44 30	13 47.6	I3	10	5 29	12 0.6
I	10½	44 33	13 57.9	I3	10½	5 34	12 4.2
I	9½	44 41	13 51.7	I3	10½	5 42	12 1.7
I	10	45 32	13 53.0	II	10	5 54	13 12.2
I	12	45 37	13 50.9	II	10	5 59	13 17.6
I	9½	46 27	14 2.1	II	II½	6 28	13 17.4
I	9½	46,32	14 1.8	I	10	6 54	12 27.6
I	12	46 49	13 59.3	I3	10	7 4	12 5.9
I	10½	47 16	14 2.0*	I3	II½	7 10	12 3.5
I	10	47 52	14 5.3	I	II	7 27	12 42.7
I	12	49 5	13 56.5	I3	II	7 31	11 53.7
I	12	49 9	13 58.2	I3	II	7 46	12 5.3
I	12	49 14	13 55.5	II	II	7 47	13 14.8
I	10	49 46	13 58.7	II	II½	7 48	13 17.1
I	10	49 48	13 56.7	I3	10½	8 6	12 8.8
I3	10	59 5	11 57.3	II	12	8 8	13 15.8
I3	12	59 17	11 57.9	I3	12½	8 56	11 56.9
I	II	59 30	12 21.5	I	II½	9 1	12 21.9
I3	9½	20 59 45	12 6.7	I3	12	9 5	11 56.9
I3	II½	21 0 24	12 7.0	I3	12	9 10	11 57.4
I I3	II	0 29	12 9.0	II	12	9 24	13 27.0:
I	II	0 52	12 29.6	II	12	9 26	13 27.6:
I3	II	1 22	11 50.5	I3	10½	9 26	11 58.1
II	II½	1 58	13 15.8	I	II	10 17	12 11.2
II	12	2 5	13 13.5	II	8	10 22	13 13.3
I3	II	2 20	11 55.4	I3	II	10 30	12 1.7
I	II½	2 30	12 25.4	I3	II	10 41	11 52.8
II	II½	3 11	13 24.4	II	II½	10 58	13 24.6
II	10	3 21	13 28.7	II	10	11 9	13 18.8*
II	12	3 38	13 27.2	II	9	11 25	13 26.7
I3 •	II	21 4 22	12 7.6	I	12	21 11 37	12 29.4

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
11	10	21 11 41	—13 26.9	13	9	21 21 47	—11 52.8
13	11	11 54	11 57.7	13	11½	22 10	11 50.5
13	11	12 3	12 3.6*	11	11	22 24	13 24.4
I	10½	12 51	12 22.4†	13	9½	22 27	12 9.2
13	10	12 59	12 8.9	13	9½	22 42	11 50.3
11	12	13 12	13 16.5	13	9½	22 44	12 1.6
11	11	13 31	13 11.2	11	11	23 2	13 25.6
11	11½	14 35	13 28.0	13	9½	23 29	12 3.8
11	9	14 46	13 24.2	I	11	23 37	12 26.0
13	10½	15 7	11 57.2	11	9	23 48	13 25.6
11	10½	15 13	13 21.4	13	11	23 56	12 1.3
I	12	15 33	12 28.3	13	11½	24 7	12 4.4
11	11	15 39	13 27.7	13	11½	24 23	11 51.8
13	10½	15 45	12 6.1	11	12	24 40	13 28.2
13	11	16 9	12 9.2	13	11½	25 26	11 1.3
13	10	16 29	12 7.3	11	10½	25 33	13 15.7
11	11½	16 33	13 25.9	13	12	25 33	12 4.1
13	11	16 36	12 9.3	13	11	25 33	12 7.0
11	10½	16 41	13 24.4	11	11	26 2	13 17.1
11	10	17 21	13 28.0	I	11	26 35	12 17.9
13	11	17 34	11 53.6	11	10	26 38	13 13.8
13	11	17 35	11 53.3	11	11	26 40	13 14.3
I	10	17 42	12 17.9	11	10	27 8	13 23.2
11	11½	17 44	13 13.8	13	11½	27 9	12 3.9:
I	10	17 55	12 30.9	13	10	27 10	12 3.8:
13	9	18 0	12 4.8	13	11½	27 36	11 53.0
11	11	18 28	13 25.9	13	11	27 54	11 55.7
11	9½	19 41	13 16.6	11	11½	27 58	13 23.1
I	9½	19 51	12 28.6	13	10	28 30	12 4.3
13	11	20 0	11 54.2	11	9	28 47	13 14.2
13	11	20 10	12 4.1	13	10½	28 59	11 57.5
13	11½	20 16	12 4.7	I	10	29 6	12 25.0
I 13	10	20 58	12 8.0†	I	11	29 12	12 28.8
13	9½	21 13	13 25.5	11	10½	29 40	13 25.7
13	9	21 21 30	—12 6.6	I	11½	21 30 20	—12 24.7

\* p. of double.

† (4).

‡ Double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		$^{\text{h. m. s.}}$	$^{\circ}$			$^{\text{h. m. s.}}$	$^{\circ}$
I	10	21 30 33	12 19.4*	30	11½	22 3 22	12 42.3
13	10	30 35	12 6.5	30	12	3 23	12 44.5
I	12	30 59	12 24.5	I	9½	4 11	12 20.0
II	11	31 21	13 17.3	30	11	4 45	12 27.3
I	11	31 23	12 14.3	30	10	4 47	12 31.9
13	11	31 26	11 54.5	I	12	5 51	12 12.1
II	8	31 30	13 18.0*	30	11	6 5	12 38.0*
13	9	31 40	11 54.0	30	11	6 56	12 38.8
13	8	31 44	11 51.2	I	12	7 14	12 16.5
II	12	31 56	13 17.5	30	10½	7 42	12 36.4*
I	11½	32 4	12 28.6†	30	11	8 0	12 36.5
13	9	32 20	12 5.2	2	11½	8 14	13 18.3
I	10½	32 26	12 29.2	2	11½	8 16	13 15.6
I	11½	33 0	12 25.8	30	10½	8 55	12 39.1
I	9½	33 18	12 26.3	11	10½	9 5	12 7.0
13	10½	33 23	12 11.1	I	11½	9 28	12 26.6
I	9	33 37	12 24.6	2	12	10 10	13 28.1
I	10½	33 49	12 19.8	30	11	10 16	12 44.0
II	11	33 52	13 28.9	I	11½	10 49	12 24.5
II	10½	34 13	13 31.8	2	12	10 50	13 27.5
13	10½	34 17	12 1.2	2	12	11 1	13 25.3
II	11	34 21	13 22.6	11	11	11 59	12 5.5
I	10½	35 27	12 12.8	I	12	12 31	12 22.4:
II	11	36 33	13 16.0	I	11½	13 55	13 23.3
I	11½	37 16	12 30.9	2	11	14 4	13 21.2
I	11	38 30	12 27.3	I	10½	14 11	12 21.7
I	10½	38 45	12 29.1	I	12	15 32	12 18.3†
II	11½	38 53	13 16.0	I	10	15 42	12 15.5
II	9½	39 33	13 15.7	11	12	16 1	11 52.2§
I	9½	39 56	12 19.8	2	11	16 29	13 8.0
I	9½	40 3	12 28.5	I	10½	16 36	12 19.8*
II	11	41 1	13 25.9	I	11½	16 36	12 19.0
II	11½	41 21	13 26.2	2	11	17 23	13 26.4
I	11½	42 11	12 18.9	I	10	17 43	12 12.2
I	11	21 42 24	12 25.2	I	10	22 17 54	12 26.5

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' .</small>			<small>h. m. s.</small>	<small>° ' .</small>
2	11	22 18 2	-13 9.4*	I	9½	22 25 39	-12 18.3
2	10	18 16	13 18.2	II	11	25 45	12 11.2
II	12	18 52	11 54.2	I	11	25 59	12 22.8
I	11½	19 9	12 21.5	2	11½	26 13	13 12.1
2	12	19 14	13 17.0	II	10	26 30	12 3.9
2	9	19 15	13 14.2	I	10	26 31	12 17.1
I	12	19 17	12 12.6	II	12	26 39	12 1.2
I	12	19 19	12 14.0	II	10½	26 40	11 56.7
2	10½	19 41	13 12.8	II	9½	26 40	12 9.1
I	11½	19 48	12 16.1	II	11	27 0	12 8.1
2	10	19 51	13 17.6	2	11	27 4	13 15.4
I	10½	19 56	12 13.6	II	9	27 10	12 0.5
I	11½	20 10	12 16.2	2	11	27 25	13 22.0
2	11	20 21	13 11.3	I	11½	27 39	12 29.2
I	11½	20 43	12 27.9	I	10	28 29	12 32.6
2	9½	21 8	13 16.5	I	12	28 34	12 22.6
2	9½	21 23	13 11.6	I	11	28 34	12 26.4
2	11	21 53	13 12.4	II	11	29 1	12 2.6
II	12	22 13	11 55.9	2	11	29 4	13 19.2
I	10½	22 17	12 24.3	2	11½	29 11	13 12.9
2	11½	22 44	13 22.4	I	10	29 34	12 13.9
2	12	23 3	13 28.5	I	11	29 55	12 18.5
II	10	23 15	11 52.9	II	11	30 18	11 52.1
I	11	23 40	12 22.2	II	11	30 32	12 2.8
2	11	23 47	13 19.3	I	10½	30 39	12 11.7
I	10	23 54	12 19.4†	I	10½	30 40	12 13.6
I	11	24 10	12 13.8	I	11	31 38	12 24.5
II	12	24 19	11 57.2	I	11½	31 38	12 26.9
2	11	24 20	13 23.7	II	12	31 52	11 57.3
2	11	24 27	13 25.9	II	11½	32 18	12 8.2
II	12	24 28	12 2.8	I	10	32 39	12 32.5
I	10	25 2	12 29.0	II	11	32 53	11 59.1
II	11	25 6	11 55.3	I	12	33 55	12 25.1
I	10	25 20	12 27.0	I	9	34 14	12 16.6
I	10½	22 25 23	-12 27.1	II	11	22 34 22	-12 7.4

\* N. of a triple.

† (4).

Days Obs.	Mag.	$\alpha$ .	$\delta$ .	Days Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
I	II	22 34 42	-12 26.4	II	II	23 16 41	-7 47.1
II	IO	34 50	11 56.7	II	IO	16 44	7 31.5
I	8½	35 4	12 13.7	II	II	17 36	7 50.2
II	II	35 12	11 56.8	II	II	18 38	7 33.2
II	IO	35 50	11 53.7	II	II	18 47	7 43.6
I	9½	35 52	12 32.7	II	II½	18 51	7 33.4
II	10½	36 0	11 54.5	II	II	20 42	7 38.6
I	II	36 17	12 12.4	II	II	22 5	7 36.4
II	II½	47 55	7 47.7	II	II½	22 18	7 35.4
II	10½	48 52	7 43.9	II	II	24 32	7 43.2
II	10½	49 5	7 32.4	II	II	24 47	7 35.6
II	12	50 4	7 37.3	II	IO	25 36	7 35.1
II	II½	50 33	7 35.6	II	10½	25 39	7 48.0
II	II½	50 35	7 34.2	II	II½	27 31	7 31.7
II	II	50 53	7 35.1	II	II½	27 40	7 36.5
II	II	51 46	7 50.4	II	II	27 54	7 49.2
II	IO	53 8	7 39.9	II	10½	28 13	7 39.8
II	IO	54 58	7 44.4	II	9½	29 12	7 32.5
II	10½	55 0	7 41.5*	II	II	29 53	7 39.3
II	10½	55 43	7 35.0	II	IO	31 29	7 47.6
II	II½	56 54	7 33.5	II	II	23 31 59	-7 35.9
II	II	57 6	7 48.0	23	II	0 37 26	+2 58.2
II	9	58 37	7 38.1	23	II½	37 50	2 55.0
II	IO	22 59 9	7 41.7*	23	12	38 33	2 55.0
II	II½	23 1 8	7 48.2	23	9½	38 41	2 58.4
II	II	3 42	7 46.8	23	9½	39 6	2 59.2
II	10½	4 17	7 43.1	23	9½	40 24	2 59.0
II	IO	4 26	7 34.3	23	11½	40 32	2 58.3
II	II	5 56	7 48.5	23	IO	42 14	3 7.9
II	9	6 28	7 38.5	23	10½	42 43	2 54.0
II	10½	12 15	7 31.1	23	10½	42 44	3 5.3
II	II	13 19	7 39.5	23	IO	42 49	3 3.1
II	II	14 23	7 43.4	23	8½	45 8	3 0.3†
II	II½	16 21	7 33.1	23	II½	45 38	3 3.2
II	II	23 16 36	-7 47.2	23	IO	0 46 4	+2 59.9

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup> <sup>'</sup> <sup>''</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup> <sup>'</sup> <sup>''</sup>
23	9½	0 46 5	+2 53.9	23	9½	1 1 15	+3 6.7
23	11	46 47	3 11.9	23	10	2 56	2 55.6:
23	12	47 12	3 8.9	23	10½	3 10	2 56.1
23	10	47 45	3 2.2*	23	11½	3 22	2 57.3
23	I	47 59	3 6.7†	23	11	3 26	2 56.5§
23	12	48 20	3 6.7	23	12	27 24	12 11.1
23	10½	49 16	3 6.0	23	12½	27 45	12 12.6
23	9½	49 42	3 6.9†	23	10	28 27	12 23.6
23	11	49 48	2 59.0	23	10	28 30	12 25.4
23	11	49 52	2 57.0	23	11	28 58	12 13.5
23	10	50 25	2 57.9	23	9½	29 17	12 28.9
23	10½	50 29	2 55.7	23	10	29 24	12 22.7
23	11	51 20	3 7.4	23	10	29 53	12 25.5
23	11	51 38	3 5.3	23	12	30 1	12 25.7
23	11	51 57	2 58.4	23	10½	31 19	12 19.3
23	10	52 20	2 56.8	23	11	31 40	12 26.5
23	9½	52 20	3 3.4	23	9½	32 27	12 16.9
23	9½	53 36	3 2.7	23	10	32 30	12 11.5
23	10½	54 6	3 2.5	23	9½	32 31	12 15.3
23	9½	55 23	3 0.4*	23	11	34 7	12 25.4
23	I	55 35	2 58.3	23	11½	34 41	12 21.9
23	10	56 1	3 2.3	23	12	36 15	12 28.6
23	9½	56 21	3 3.5	23	11	36 34	12 10.4
23	11	57 0	2 53.7	23	11	36 47	12 13.0
23	11	57 6	3 6.2	23	10	36 55	12 17.2
23	8½	57 9	3 3.8*	23	10	38 19	12 18.6
23	9	57 28	2 55.2	23	11	38 27	12 24.7
23	10	58 21	3 11.9	23	11	38 58	12 25.8
23	11	58 46	3 7.4	23	11	39 4	12 25.9
23	11	59 12	2 57.0	23	10½	39 26	12 26.3
23	11	0 59 23	3 11.2	23	10½	40 12	12 32.1
23	12	1 0 49	2 56.3	23	9	40 43	12 11.0
23	11	0 57	2 54.5	23	11½	40 47	12 11.3
23	12	1 1	3 4.6	23	10½	41 19	12 9.1
23	11½	1 1 10	+2 53.9	23	11	1 42 5	+12 12.3

• (4)

† S. f. of double.

‡ M. C.

§ N. p. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
23	9½	1 42 19	+12 13.8	23	12	1 59 28	+12 14.4
23	9½	43 7	12 17.1	23	9	1 59 46	12 27.3
23	11	43 13	12 24.1	23	11	2 0 46	12 27.6
23	10½	43 35	12 18.4	23	11	0 46	12 29.2
23	11	43 52	12 20.0	23	11	0 50	12 25.7
23	11½	43 53	12 15.1	23	11	1 10	12 26.0
23	11	45 31	12 17.9	23	10	2 10	12 13.6
23	12	45 51	12 16.7	23	11	2 23	12 22.1
23	10	45 56	12 16.1	23	9½	2 44	12 12.5
23	10½	46 6	12 12.5	23	10	4 35	12 19.0
23	9½	46 57	12 10.9	23	8½	4 59	12 20.9*
23	9	47 27	12 14.4	23	11½	5 23	12 28.1†
23	12	47 44	12 25.9	23	11	5 31	12 22.9
23	9	48 7	12 26.7	23	10½	6 42	12 26.0
23	10	48 31	12 12.0	23	10	6 50	12 24.2
23	11½	48 40	12 11.8	23	12	7 14	12 22.8
23	11½	49 19	12 28.4	23	10½	8 11	12 18.9
23	11	49 26	12 29.3	23	11½	8 32	12 17.4
23	10	50 58	12 18.6	23	9½	8 40	12 28.0
23	10	51 20	12 18.2*	23	10	9 22	12 15.5
23	10	51 21	12 21.6*	23	9½	9 52	12 14.4
23	10	51 24	12 28.0	23	10½	10 12	12 15.5
23	11	53 21	12 24.2	23	10	10 56	12 8.8
23	11	53 25	12 25.1	23	11½	11 54	12 12.3
23	11	53 27	12 26.9	23	11	12 10	12 14.8
23	9	53 46	12 18.1	23	12	12 50	12 12.0
23	11	54 17	12 13.8	23	10½	13 32	12 23.6
23	9½	54 18	12 18.9*	23	11½	13 40	12 25.3
23	8	55 52	12 19.1	23	11½	14 1	12 24.0
23	11	55 55	12 23.5	23	11½	14 3	12 21.8
23	8½	55 56	12 21.1	23	10	14 40	12 15.8
23	11½	57 35	12 11.6	23	11	15 22	12 12.6
23	8½	57 39	12 22.2	23	9	15 40	12 29.4
23	12	57 48	12 22.3	23	10½	16 20	12 16.7
23	11	1 59 26	+12 12.9	23	11	2 16 5th	+12 16.5



## APPROXIMATE MEAN PLACES OF STARS,

Days Obs.	Mag.	$\alpha$ .	$\delta$ .	Days Obs.	Mag.	$\alpha$ .	$\delta$ .
c		h. m. s.	+ ° ' "			h. m. s.	+ ° ' "
23	11½	2 17 2	+12 14.9	23	12	2 33 51	+12 13.2
23	11½	17 9	12 18.3	23	9	34 2	12 20.8*
23	10½	18 26	12 16.6	23	11	35 18	12 27.1
23	10	18 47	12 22.5	23	10½	35 28	12 13.1
23	10	18 57	12 25.9	23	9½	35 35	12 19.2
23	11	20 36	12 27.7	23	9½	36 13	12 25.2
23	12	21 29	12 25.8	23	12	36 19	12 25.3
23	12	21 51	12 17.0	23	11	37 35	12 14.3
23	12	21 52	12 26.3	23	9½	37 55	12 12.4†
23	10	22 23	12 13.7	23	11	38 12	12 13.8
23	10	22 38	12 26.9	23	11	38 24	12 14.8
23	11	23 9	12 8.6	23	11½	38 35	12 15.8
23	11	23 44	12 15.2	23	11	38 55	12 15.9
23	11	23 51	12 11.8	23	11	39 36	12 23.6
23	11½	24 2	12 24.6	23	11	39 54	12 10.7
23	10	24 3	12 23.7	23	11	40 59	12 14.9
23	9½	24 22	12 16.8	23	10	41 7	12 18.4
23	11½	25 4	12 12.3	23	11	41 38	12 11.5
23	11	25 21	12 12.3	23	11	41 55	12 28.5
23	11½	26 9	12 13.2	23	11½	42 28	12 24.1
23	12	26 12	12 14.5	23	11	42 41	12 24.2
23	11	27 14	12 13.8	23	9	43 9	12 29.4
23	11	27 19	12 18.4	23	10	44 14	12 15.4
23	11	27 34	12 18.5	23	10	44 19	12 13.9
23	9	28 4	12 17.1	23	10	44 34	12 26.1
23	10½	28 36	12 22.4	23	10	48 1	12 11.1
23	11½	28 48	12 23.8	23	9	48 3	12 16.1
23	11	29 40	12 27.0	23	11	49 6	12 25.2
23	10½	29 48	12 25.6	23	10	50 23	12 26.4
23	9	30 7	12 25.1	23	10	50 28	12 29.6:
23	11	31 8	12 15.3	23	9½	50 39	12 19.1†
23	10	31 12	12 16.6	23	11½	51 59	12 12.1
23	11	32 21	12 13.2	23	11½	52 26	12 23.8
23	9½	32 23	12 26.2	23	11	53 20	12 22.0
23	c2	2 33 14	+12 12.5	23	12	2 54 26	+12 13.0

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
23	10	2 54 28	+12 28.7	23	11	2 59 0	+12 30.5
23	10½	55 8	12 14.2	23	11	59 52	12 19.5
23	11	55 20	12 18.2	23	11	2 59 58	12 13.4
23	12	56 25	12 11.7	23	12	3 1 26	12 24.3
23	10½	57 23	12 27.1	23	10	1 52	12 25.7
23	10½	57 28	12 18.2	23	10½	2 5	12 29.6
23	11½	57 40	12 26.7	23	11½	2 28	12 27.6
23	9	58 32	12 28.5	23	11	3 3 26	+12 28.5
23	11	2 58 32	+12 29.1				

Notes.—2nd—Stopped by clouds.

11th—Between  $\alpha$  22h. 9m. and 23h. 32m., moonlight intense.

13th—Sky covered with thin clouds.

30th—Taken with the new water-eye piece. The power being about 140, that of the comet-eye piece, generally used, being 80.

# APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

## 914 STARS NEAR THE ECLIPTIC,

OBSERVED IN NOVEMBER, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
11	11½	21 23 43	16 33.1	11	10½	21 29 25	16 35.2
11	11	23 57	16 34.3	11	11	29 35	16 33.2
11	10	25 12	16 42.5*	11	11	29 39	16 39.1
11	10½	25 39	16 34.4	11	10	30 58	16 46.2
11	11	26 16	16 33.3	11	10	31 7	16 31.8
11	10½	27 4	16 37.7*	11	10	31 33	16 40.8
11	11	27 38	16 30.3	11	11	32 10	16 46.0
11	11	28 20	16 32.9	11	11	32 16	16 41.5
11	11	28 50	16 28.5	11	10½	33 27	16 35.9*
11	11	21 29 17	16 42.3	11	8½	21 34 13	16 26.4

\* (4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
II	II	21 34 45	16 36.0	28	II	22 39 23	6 7.4
II	II	35 29	16 38.5	27	12	39 39	8 46.6
II	II	35 32	16 34.5	28	II	39 47	6 7.6
II	10	36 3	16 44.4	28	10½	39 50	6 10.0
II	II	36 11	16 48.6	28	9½	40 6	6 11.5
II	II½	36 34	16 36.8	27	II	40 9	8 38.8
II	12	37 53	16 37.4	27	10	40 17	8 50.3
II	10½	38 3	16 40.9	28	8½	40 41	6 4.9
II	II	21 44 26	16 30.2	28	II	40 44	5 53.1
27	II½	22 30 46	8 46.3	28	II½	40 50	6 0.2
27	12	31 18	8 43.0	27	12	41 0	8 44.7
27	II	31 38	8 43.7	28	II	41 11	5 54.5
27	10½	32 6	8 36.2	27	II½	41 36	8 47.5
27	10½	32 23	8 36.7	27	12½	41 39	8 44.2
27	II½	32 43	8 44.8	27	12	41 59	8 47.0
27	II½	33 52	8 35.6	28	10	42 3	6 5.7
28	II	34 18	6 1.4	27	II	42 16	8 33.4
28	10½	34 41	5 48.8	28	II½	42 46	6 2.2
28	II	34 42	6 0.6	28	II	43 3	5 55.0
27	II½	35 11	8 46.0	27	II½	43 4	8 50.8
27	II	35 32	8 36.5	27	10½	43 8	8 44.5
27	II	35 36	8 46.8	27	10½	43 9	8 37.0
28	10*	35 51	6 3.1	28	II½	43 11	5 57.2
27	10	36 27	8 43.1	27	II	44 1	8 35.6
27	12	36 44	8 37.5	27	II½	44 14	8 37.5
27	9	36 47	8 37.1	27	II½	44 28	8 34.8
27	10	37 11	8 36.3	28	II	44 40	5 52.8
27	II	37 19	8 38.6	28	12	44 58	5 53.9
27	10½	37 32	8 43.0	27	10½	45 10	8 33.4
28	II	37 35	6 2.3	27	II½	45 18	8 46.4
28	II	37 41	6 3.7	27	II½	45 32	8 45.7
28	II	38 0	6 4.0	27	II½	45 47	8 43.6
27	12	38 11	8 46.6	28	—	45 50	6 7.1
28	10	38 23	6 12.8	27	10½	45 55	8 49.3
27	10½	22 39 21	8 50.6	28	II	22 46 0	6 7.2

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
27	9	22 46 9	-8 50.4	27	11 $\frac{1}{2}$	22 55 52	-8 31.8
28	10	46 42	6 8.9	27	10 $\frac{1}{2}$	56 5	8 33.7
28	11 $\frac{1}{2}$	46 55	6 6.3	28	10	56 16	5 54.4
27	12	46 58	8 33.9	28	11	56 33	6 5.8
28	10	46 58	5 52.9	27	11 $\frac{1}{2}$	56 38	8 35.3
28	11 $\frac{1}{2}$	46 59	6 1.1	27	9	56 45	8 32.1
28	10 $\frac{1}{2}$	48 10	6 8.2	28	11	57 16	6 7.5
28	9 $\frac{1}{2}$	48 18	5 56.4	28	9	57 26	6 3.4
27	10	48 50	8 38.1	28	11	57 47	5 58.4
28	11	49 20	6 8.0	27	10	58 5	8 34.2
28	10	49 27	6 7.6	28	12	58 15	6 11.3
27	9 $\frac{1}{2}$	49 50	8 52.0	27	10 $\frac{1}{2}$	58 18	8 46.9
28	10 $\frac{1}{2}$	50 7	6 4.9	28	11 $\frac{1}{2}$	58 32	6 9.8
27	11 $\frac{1}{2}$	50 11	8 53.2	28	11	59 51	5 58.0
28	10	50 24	5 50.5	28	11	59 53	5 52.1
27	11 $\frac{1}{2}$	50 28	8 33.7	27	10 $\frac{1}{2}$	22 59 56	8 34.6
27	10 $\frac{1}{2}$	51 9	8 34.6	28	9	23 0 1	5 54.2
27	10	51 29	8 50.8	27	11	0 7	8 38.6
28	12	51 45	5 54.4	28	9	0 13	6 1.9*
27	11	51 59	8 46.4	27	10 $\frac{1}{2}$	0 23	8 37.2
28	10	52 0	5 52.4	28	11	1 10	5 54.8
28	9 $\frac{1}{2}$	52 28	6 11.5	26	9 $\frac{1}{2}$	1 18	3 21.7
27	10 $\frac{1}{2}$	52 43	8 37.3	27	11	1 20	8 47.6
28	11	52 43	6 3.9	26	12	1 27	3 22.9
27	11 $\frac{1}{2}$	53 38	8 43.5	27	11	1 28	8 48.5
28	12	53 58	6 5.0	26	11	1 52	3 19.6
28	9 $\frac{1}{2}$	53 58	6 7.9	28	10 $\frac{1}{2}$	2 1	6 9.0
27	10 $\frac{1}{2}$	53 59	8 43.1	28	11	2 12	5 57.4
28	11 $\frac{1}{2}$	54 24	6 6.9	28	10	2 50	5 58.2
27	8 $\frac{1}{2}$	54 33	8 31.8	28	11 $\frac{1}{2}$	2 53	5 53.8
27	9 $\frac{1}{2}$	54 57	8 37.7	27	9	3 2	8 36.1
27	10	55 2	* 8 50.0	28	11	3 3	6 0.2
28	10	55 26	5 52.8	27	11	3 36	8 39.5*
28	10	55 35	5 56.4	26	11	3 38	3 27.7
27	11 $\frac{1}{2}$	22 55 43	-8 33 8	26	10	23 3 57	-3 17.9

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup>	<sup>m.</sup>	<sup>s.</sup>	<sup>°</sup>			<sup>h.</sup>	<sup>m.</sup>	<sup>s.</sup>	<sup>°</sup>
27	10 $\frac{1}{2}$	23	3	57	-8 52.4	26	9	23	10	15	-3 25.9
27	11		4	2	8 37.1	28	11 $\frac{1}{2}$		10	29	5 57.8
26	10 $\frac{1}{2}$		4	6	3 26.2	26	9		10	31	3 28.8
27	12		4	15	8 39.5	27	10 $\frac{1}{2}$		10	50	8 44.6
26	11		4	35	3 17.5	27	11 $\frac{1}{2}$		11	6	8 45.8
28	10 $\frac{1}{2}$		4	43	6 11.3	28	10 $\frac{1}{2}$		11	6	5 55.1
26	12		4	47	3 13.5	27	10		11	16	8 39.6*
28	11		5	18	5 51.5	26	9 $\frac{1}{2}$		11	22	3 13.0
26	10 $\frac{1}{2}$		5	33	3 13.3	26	9 $\frac{1}{2}$		11	27	3 29.6
28	11 $\frac{1}{2}$		5	59	5 58.6	27	10 $\frac{1}{2}$		11	34	8 51.9
27	9 $\frac{1}{2}$		6	10	8 34.5	26	11 $\frac{1}{2}$		12	10	3 27.8
26	11		6	23	3 16.6	26	12		12	12	3 27.2
27	10		6	37	8 39.0	28	11 $\frac{1}{2}$		12	14	5 59.2
27	10 $\frac{1}{2}$		6	49	8 47.2	26	12		12	39	3 25.7
26	12		6	55	3 22.5	27	10 $\frac{1}{2}$		12	46	8 37.2
28	11		6	57	6 7.1.	28	11		12	50	6 0.2
26	11		7	4	3 25.2	26	11		12	55	3 15.9
28	10 $\frac{1}{2}$		7	9	6 11.2	27	10 $\frac{1}{2}$		13	5	8 49.9
26	10		7	22	3 16.7	26	9		13	15	3 17.4
26	11		7	25	3 22.3	27	11 $\frac{1}{2}$		13	23	8 42.5
28	11 $\frac{1}{2}$		7	59	5 56.8	27	12		13	28	8 32.0
26	10		8	12	3 11.5	26	11		13	41	3 17.3
27	11 $\frac{1}{2}$		8	20	8 43.4	26	11		13	47	3 28.6
27	12		8	25	8 46.1	27	11		13	51	8 35.6
26	11 $\frac{1}{2}$		8	29	3 14.1	27	11 $\frac{1}{2}$		14	23	8 47.4
26	11		8	36	3 13.7	26	11		14	32	3 12.4
27	12		8	38	8 34.5	26	11 $\frac{1}{2}$		14	57	3 28.9
28	11		8	57	5 57.2	28	11 $\frac{1}{2}$		15	0	5 56.6
28	11		9	11	5 55.0	28	11 $\frac{1}{2}$		15	6	5 55.7
27	11		9	33	8 42.5	26	12		15	9	3 28.1
26	11		9	50	3 23.7	27	11		15	11	8 48.4
27	9 $\frac{1}{2}$		9	50	8 45.1	27	11 $\frac{1}{2}$		15	18	8 43.6
26	11		9	51	3 21.6	26	11		15	49	3 8.0
26	10 $\frac{1}{2}$		9	57	3 18.2	27	11 $\frac{1}{2}$		15	55	8 38.6
28	11 $\frac{1}{2}$	23	9	57	-5 55.2	26	12 $\frac{1}{2}$	23	16	5	-3 27.7†

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h.	m.	s.				h.	m.	s.	
27	9	23	16	9	-8 35.5	26	11½	23	23	7	-3 24.7
26	12		16	32	3 18.0	27	11½		23	18	8 34.1
26	11		17	2	3 27.9	26	11		23	22	3 25.9
28	9½		17	4	5 52.1	26	11		23	24	3 12.2
27	10		17	14	8 32.4	27	10		23	50	8 32.9
26	12		17	18	3 24.7	27	11½		24	10	8 37.1
26	9		17	31	3 30.0	26	9½		24	26	3 8.6
26	10		17	45	3 29.1	27	9½		24	35	8 34.7
27	11		17	46	8 50.2	26	11		24	43	3 20.7
27	11½		17	56	8 45.6	27	12		24	52	8 35.6
26	11		18	7	3 28.6	26	12		24	54	3 17.7
28	10½		18	7	5 50.9	26	11		25	9	3 26.9
26	10½		18	12	3 16.4	26	10		25	43	3 28.4
26	10½		18	28	3 25.7	27	11		25	53	8 44.8
27	9½		18	48	8 35.1	27	12		26	11	8 38.4
28	10		18	55	5 49.3	26	12		26	24	3 12.4
26	11½		18	56	3 25.3	27	10		26	31	8 37.9
27	11		18	58	8 40.3	26	11½		26	37	3 11.6
28	12		19	8	6 6.3	26	12		26	44	3 11.3
27	11		19	10	8 33.2	27	9		26	59	8 53.3
27	10		19	13	8 40.2	26	11		27	27	3 28.7
28	10½		20	28	5 57.8	26	11½		27	33	3 29.0
27	12		20	36	8 34.7	26	10½		27	41	3 15.6*
27	12		20	44	8 39.5	26	10½		27	45	3 22.5
27	10½		20	55	8 37.5	26	11		28	5	3 20.0
27	10		21	11	8 38.7	27	9½		28	5	8 45.6
27	12		21	19	8 39.0	27	8		28	27	8 32.5
26	11		21	36	3 28.1	27	9½		28	29	8 37.7
27	8½		21	44	8 38.1	26	11½		29	13	3 15.9
27	10½		22	2	8 49.3	27	10½		29	28	8 32.0
26	11		22	5	3 22.8	26	12		29	44	3 27.5
26	11½		22	17	3 17.7	27	11		30	0	8 33.9
26	12		22	43	3 15.2	27	10½		30	16	8 42.7
26	12		22	46	3 18.3	27	9		30	17	8 46.4
27	9	23	22	49	-8 35.0	26	10	23	30	39	-3 12.5

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	°			h. m. s.	°
27	10	23 30 41	-8 38.4	26	11	23 41 43	-3 15.2
27	8½	30 54	8 37.3	26	9½	42 3	3 23.7
26	10½	30 56	3 23.1	25	10	42 9	3 34.7
26	10½	30 57	3 17.6	25	11	43 11	3 54.1
26	9	31 31	3 15.9	25	11½	43 33	3 35.7
27	9	31 34	8 48.6	26	11½	43 53	3 12.1
26	11½	31 58	3 27.3	25	11	44 35	3 37.0
27	12	32 3	8 50.1	26	10	45 12	3 25.3
26	10½	32 23	3 26.1	26	9½	45 26	3 24.7
26	11½	32 36	3 26.5	27	11	45 30	4 49.8
27	9½	32 40	8 32.8	26	10½	45 32	3 12.2
27	11½	32 48	8 37.3	25	11	45 34	3 34.5
26	11	32 51	3 28.4	25	11	45 47	3 40.3*
26	11	33 3	3 17.9	26	11	46 5	3 10.3
26	11½	33 9	3 14.6	27	12	46 18	4 48.1
26	11	33 11	3 11.6	25	11½	46 30	3 37.5
26	10	34 20	3 26.2	25	11½	46 44	3 44.5
26	11	34 33	3 25.2	27	11	47 7	4 34.5†
26	12	34 56	3 13.9	26	9	47 19	3 14.0
26	12	34 57	3 17.1	26	12	47 21	3 17.7
26	11½	34 58	3 13.6	26	11	47 35	3 18.4
26	12	35 53	3 28.9	26	11	47 45	3 18.2
26	11½	36 24	3 22.8	27	9½	47 48	4 31.7:
26	9	36 44	3 17.2	26	11	49 8	3 28.1
26	12	36 49	3 26.0	25	11	49 37	3 34.9
26	11	36 56	3 24.9	26	11½	49 38	3 14.5
26	9½	37 41	3 27.1	26	10½	49 40	3 11.1
26	10½	38 31	3 29.8	25	11½	50 17	3 38.7
26	10½	38 58	3 23.9	27	10	50 30	4 43.2
26	12½	39 30	3 15.9	26	11½	50 31	3 29.9
26	9	40 10	3 8.1	25	11½	50 39	3 47.2
26	11	40 35	3 9.4	26	12½	50 49	3 28.9
26	10½	41 18	3 19.1	25	10½	51 8	3 41.0*
26	10	41 19	3 18.0	25	10	51 9	3 38.0
26	10½	23 41 39	-3 24.4	27	10½	23 51 19	-4 53.6

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		$^{\text{h.}} \text{ m. s.}$	$^{\circ}$			$^{\text{h.}} \text{ m. s.}$	$^{\circ}$
26	12	23 51 25	-3 24.0	27	11	23 56 49	-4 33.7
27	11	51 45	4 39.8	26	11½	56 55	3 27.1
26	10	51 50	3 26.4	25	12	57 2	3 31.4
26	12	51 51	3 27.2	27	11½	57 2	4 31.8
25	10½	51 58	3 38.8	26	11	57 9	3 28.1
25	10½	52 1	3 34.3	26	11½	57 21	3 26.2
25	10	52 35	3 46.9	25	10½	57 28	3 54.3
27	10	52 42	4 30.9	27	9	57 29	4 52.1
26	9	52 48	3 13.4	25	10	57 36	3 40.7
26	11½	52 57	3 30.0	25	11	57 40	3 33.3
27	10½	53 14	4 46.8	26	11½	57 49	3 29.8
27	9	53 16	4 31.8	27	11½	58 29	4 43.1
25	12	53 26	3 36.7	26	11	58 30	3 22.1
26	10	53 39	3 24.0	24	11	58 32	4 17.4
25	12	53 42	3 38.7	25	10½	58 42	3 35.6
26	12	53 58	3 13.6	25	10½	58 46	3 33.8
27	11	53 58	4 35.4	26	11	58 50	3 18.8*
26	12	54 1	3 18.1	26	10½	58 53	3 27.8
27	11½	54 15	4 42.8	25	11½	59 3	-3 38.4
24	10	54 27	3 38.9	24	11	59 5	+4 21.2
27	9	55 8	4 39.5	24	11	59 26	4 19.5
26	12	55 12	3 25.8	24	9½	59 28	+4 30.4
26	12	55 21	3 11.8	25	9	59 31	-3 32.8
26	12½	55 24	3 22.2	25	10	59 32	3 49.5
27	9½	55 32	4 44.8	25	10	23 59 36	3 46.5
27	11	55 35	4 48.0	25	11	0 0 48	3 49.2
25	11½	55 37	3 46.6	25	11	0 55	3 48.7
27	11½	55 54	4 46.7	27	9	1 1	4 31.3
25	11½	56 2	3 47.5	25	11	1 7	3 47.3
25	11	56 11	3 47.7	25	12	1 12	3 46.7
25	10	56 13	3 52.1	25	12	1 25	3 45.5
26	12	56 14	3 23.7	26	11½	1 26	3 13.5
26	12	56 24	3 29.1	27	11½	1 29	4 47.9
27	11½	56 39	4 32.1	26	11	1 30	-3 16.9
25 •	12	23 56 49	-3 31.4	24	12	0 1 43	+4 21.2



Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h.	m.	s.				h.	m.	s.	
24	12	0	1	47	+4 16.5	24	10 $\frac{1}{2}$	0	7	8	+4 25.9
27	10 $\frac{1}{2}$		1	51	-4 42.4	25	10		7	18	-3 38.2
27	10 $\frac{1}{2}$		1	51	4 34.1	27	9 $\frac{1}{2}$		7	34	4 47.8
25	11 $\frac{1}{2}$		1	54	3 44.9	27	9 $\frac{1}{2}$		7	35	-4 45.3
25	9 $\frac{1}{2}$		2	1	-3 50.9	24	11		7	40	+4 23.7
24	11		2	21	+4 8.3	25	9 $\frac{1}{2}$		7	47	-3 36.4
25	10 $\frac{1}{2}$		2	37	-3 45.0	25	10 $\frac{1}{2}$		7	52	-3 36.2
24	10		2	40	+4 29.2	24	10 $\frac{1}{2}$		8	2	+4 14.0
25	10		2	41	-3 42.7	25	11		8	3	-3 42.4
25	11 $\frac{1}{2}$		2	48	3 34.9	24	10		8	4	+4 20.8
27	11		3	2	4 42.1	24	10		8	24	4 23.5
27	11 $\frac{1}{2}$		3	4	-4 37.6	24	11		8	40	+4 15.1
24	9		3	9	+4 15.2	25	11 $\frac{1}{2}$		8	44	-3 36.0
24	9		3	21	+4 22.1	24	11		8	55	+4 16.9
27	11 $\frac{1}{2}$		3	24	-4 44.2	25	11		9	29	-3 32.4
25	11 $\frac{1}{2}$		3	34	3 44.0	25	9		9	52	-3 43.0†
27	10 $\frac{1}{2}$		3	44	-4 44.3	24	11		9	59	+4 14.5
24	11 $\frac{1}{2}$		4	24	+4 22.0	25	12		10	21	-3 47.7
24	10 $\frac{1}{2}$		4	26	+4 13.2†	24	10 $\frac{1}{2}$		10	45	+4 14.1
25	10 $\frac{1}{2}$		4	36	-3 34.8	24	10 $\frac{1}{2}$		10	47	4 11.6
25	10 $\frac{1}{2}$		4	42	3 37.1	24	11		11	4	4 27.1
25	11		4	45	3 41.8	24	10		11	42	4 6.7
25	11		4	57	-3 35.5	24	10		11	52	4 25.0
24	10		5	4	+4 8.9	24	9 $\frac{1}{2}$		12	37	4 29.8
27	10 $\frac{1}{2}$		5	15	-4 31.5*	24	9		12	55	4 6.7
27	11		5	21	-4 39.5	24	9		13	17	4 6.8
24	11		5	28	+4 14.2	24	10		13	32	4 24.5
25	11		6	2	-3 47.6	24	10		13	35	4 27.5
25	10		6	15	-3 43.5	24	11		15	7	4 21.5
24	12		6	18	+4 6.4	24	11		15	17	4 28.4
27	10		6	26	-4 30.9	24	10 $\frac{1}{2}$		16	48	4 12.7
25	10 $\frac{1}{2}$		6	35	3 46.2	24	11 $\frac{1}{2}$		17	20	4 14.5
27	11		6	35	-4 46.3	24	10 $\frac{1}{2}$		17	22	4 12.9
24	11 $\frac{1}{2}$		6	36	+4 6.5	24	10 $\frac{1}{2}$		17	40	4 15.3
25	10 $\frac{1}{2}$	0	6	53	-3 44.6	24	10	0	18	57	+4 21.5†

\* N. f. of double.

† (4).

Days Obs.	Mag.	$\alpha$ .	$\delta$ .	Days Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
24	10 $\frac{1}{2}$	19 35	+4 22.1	24	10	31 37	+4 26.9
24	10	19 43	4 13.3	24	11	31 43	4 17.0
24	11	20 40	4 14.9	26	12	31 49	2 49.2
24	12	20 50	4 15.7	24	11	32 18	4 22.6
24	10 $\frac{1}{2}$	21 3	4 17.0	24	11	32 29	4 22.9
24	11	21 37	4 12.9	24	10 $\frac{1}{2}$	32 53	4 22.6
24	12	22 36	4 16.2	24	10 $\frac{1}{2}$	32 57	4 12.8
24	7 $\frac{1}{2}$	22 47	4 9.2	26	11	33 1	2 38.6
24	10	23 19	4 27.0	26	11	34 20	2 41.9
24	9 $\frac{1}{2}$	23 12	4 19.7	24	10	34 34	4 22.6
24	10 $\frac{1}{2}$	24 43	4 20.5	24	11	34 47	4 22.8
24	11	25 16	4 14.7	24	11	34 54	4 14.7
24	11	25 18	4 20.3	26	10 $\frac{1}{2}$	35 8	2 30.9
24	11	25 36	4 16.9	24	10 $\frac{1}{2}$	35 27	4 10.1
24	11	26 18	4 20.9	24	9 $\frac{1}{2}$	35 48	4 12.4
24	10	26 32	4 20.3	24	12	36 2	4 12.9
24	10	26 46	4 20.8	24	11	36 23	4 26.9
24	10	27 1	4 19.5	24	11	36 57	4 22.4
24	10 $\frac{1}{2}$	27 11	4 21.4	24	11	37 17	4 23.1
26	10	27 13	2 34.8	24	11 $\frac{1}{2}$	38 38	4 19.6
26	10	28 4	2 36.8	24	9	39 7	4 8.0
24	10 $\frac{1}{2}$	28 13	4 24.2	24	8	40 18	4 17.1
26	10 $\frac{1}{2}$	28 14	2 43.6	26	10 $\frac{1}{2}$	40 33	2 46.1
26	12	28 34	2 39.1	26	10 $\frac{1}{2}$	40 37	2 43.0
24	10 $\frac{1}{2}$	28 47	4 19.9	26	11	40 39	2 41.2*
26	11	28 58	2 30.4	24	11	41 19	4 15.0:
24	11	29 26	4 22.1	26	10 $\frac{1}{2}$	41 20	2 46.4
24	11 $\frac{1}{2}$	29 28	4 23.2	24	10 $\frac{1}{2}$	41 23	4 19.1
26	11	30 24	2 34.7	26	10	42 32	2 45.2
26	10	30 30	2 32.2	24	11	42 40	4 30.5
24	11 $\frac{1}{2}$	30 44	4 16.3	26	10	42 52	2 43.8
24	10 $\frac{1}{2}$	30 58	4 14.0	24	10	43 25	4 8.2
24	11	31 6	4 12.8	24	11	44 20	4 15.4
26	11	31 34	2 41.3	24	10	44 35	4 35.0
24	11	31 35	+4 17.2	26	11	44 42	+2 33.6

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
26	II	0 44 50	+2 41.5	24	9	0 52 33	+4 14.3
26	IO	44 52	2 31.8	26	II	53 44	2 34.7
26	II	45 4	2 33.0	26	II	53 53	2 35.7
24	IO $\frac{1}{2}$	45 15	4 20.1	26	IO	54 15	2 28.1
24	IO $\frac{1}{2}$	45 34	4 14.3*	24	II	54 27	4 16.6
24	IO $\frac{1}{2}$	45 48	4 21.0	24	9	55 1	4 14.2
26	IO $\frac{1}{2}$	45 53	2 45.1	24	IO $\frac{1}{2}$	55 12	4 14.9
26	II	46 21	2 30.9	26	II	55 33	2 43.5
24	IO	46 56	4 23.3	26	12 $\frac{1}{2}$	55 38	2 42.9
24	IO	46 59	4 10.2	24	8 $\frac{1}{2}$	55 40	4 9.2
26	12	47 9	2 36.7	24	II	55 46	4 16.9
26	11 $\frac{1}{2}$	47 19	2 32.9	24	IO	55 54	4 20.6
26	IO	47 35	2 33.8	26	12	55 57	2 43.6
24	11 $\frac{1}{2}$	47 46	4 15.8	26	12 $\frac{1}{2}$	56 2	2 43.9
24	II	48 5	4 16.0	24	II	56 15	4 20.6
26	IO $\frac{1}{2}$	48 7	2 46.6	24	9 $\frac{1}{2}$	56 49	4 10.8
26	II	48 8	2 31.3	26	IO	56 49	2 49.7
24	IO $\frac{1}{2}$	48 26	4 14.3	26	II	56 55	2 46.4
26	II	48 35	2 32.8	24	II	57 23	4 9.6
26	12	48 47	2 41.7	26	12	57 24	2 33.4
26	11 $\frac{1}{2}$	49 9	2 38.6	24	II	57 33	4 16.0
24	IO $\frac{1}{2}$	49 21	4 17.8	26	11 $\frac{1}{2}$	57 34	2 33.0
24	IO	49 47	4 14.6	26	11 $\frac{1}{2}$	57 51	2 36.7
24	IO $\frac{1}{2}$	49 47	4 21.5	26	11 $\frac{1}{2}$	57 57	2 31.6
24	II	50 6	4 13.4	26	11 $\frac{1}{2}$	57 59	2 36.5
24	II	50 16	4 15.4	26	11 $\frac{1}{2}$	59 8	2 46.6
26	9 $\frac{1}{2}$	50 28	2 36.6	24	IO	59 23	4 15.1
26	9 $\frac{1}{2}$	50 40	2 42.3	26	IO	59 24	2 47.2
24	9	50 47	4 6.2	26	II	59 29	2 47.9
24	IO $\frac{1}{2}$	50 48	4 8.6	24	IO	0 59 37	4 14.0
26	IO $\frac{1}{2}$	51 8	2 32.6	26	12	1 0 0	2 33.6
24	IO $\frac{1}{2}$	51 35	4 15.4	26	12	0 12	2 33.7
26	12	51 44	2 35.0	26	12	0 32	2 34.5
26	12	51 47	2 32.5	24	IO	0 41	4 23.3
24	II	0 51 50	+4 16.0	26	IO $\frac{1}{2}$	1 0 44	+2 31.0

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
26	10	1 0 47	+2 33.0	26	11½	1 17 42	+5 58.3
26	11½	1 6	2 32.1	26	12	18 5	6 8.4
24	11½	1 53	4 23.9	26	11½	18 16	6 5.2
26	9	1 53	2 48.3	26	11½	18 18	6 8.1
26	12	1 59	2 44.3	26	10	19 0	5 56.7
26	11	2 30	2 31.3	26	10	19 19	6 6.3
26	10	2 56	2 50.5	26	12	21 3	6 0.3*
24	11½	3 4	4 14.7	26	10½	21 7	5 57.0
24	10	3 10	4 27.7	26	12	21 43	5 57.8
26	10	3 36	2 42.9	26	11½	22 35	6 3.9
26	10	3 43	2 34.7	26	12	22 42	5 51.8
26	9½	3 47	2 40.9*	26	11	23 23	5 55.7
24	11	4 26	4 15.6	26	12	23 31	5 54.9
24	11	4 31	4 13.7	26	11½	23 47	5 49.1
24	10	4 55	4 14.5	26	10	24 17	5 49.3
24	11	5 6	4 7.6	26	11	24 23	5 48.7
24	12	6 19	4 13.0	26	10	25 18	5 53.8
24	11½	7 4	4 13.3	26	11	25 29	5 52.4
24	11½	7 18	4 8.6	26	11½	26 21	6 5.3
24	12	8 6	4 9.6	26	10	26 44	6 6.7
24	10	8 18	4 21.3	26	9	26 54	5 59.5
24	12	8 59	4 22.0	26	11	27 20	5 53.5
24	10	9 14	4 23.4	27	10	28 29	13 51.1
24	11	9 54	4 20.8	26	8	28 52	5 57.0†
24	11	10 24	4 21.4	26	10	29 10	6 8.8
24	11	10 46	4 22.5	27	11	29 15	13 33.4
24	8	11 18	4 14.7	26	11½	29 18	5 56.6
24	11	12 2	4 20.4	27	11	29 21	13 38.2
24	11	12 14	4 28.0	27	11½	29 23	13 35.3
26	9	12 54	5 50.1	26	11½	29 24	6 1.0*
24	10½	13 20	4 21.8	27	9½	29 28	13 40.8*
26	11	13 35	6 6.2	27	10	30 19	13 47.1
26	11	13 51	6 2.2	27	10½	30 37	13 54.8
26	10½	14 19	5 59.9	26	11½	30 39	6 10.2
26	12	1 16 50	+5 53.7	26	11	1 31, 2	+6 5.2

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup>	<sup>m.</sup>	<sup>s.</sup>	<sup>°</sup>			<sup>h.</sup>	<sup>m.</sup>	<sup>s.</sup>	<sup>°</sup>
27	II	1	31	8	+13 33.1	27	10½	1	45	13	+13 48.9
26	II½		31	14	6 10.0	27	II½		45	52	13 46.2
26	II½		31	50	5 56.0	27	II½		46	3	13 43.7
27	8½		32	11	13 42.7	27	9		47	1	13 36.5
27	9		32	20	13 44.7	27	II		47	26	13 44.3
26	12		32	49	5 55.0	27	9½		48	8	13 36.2
26	12		33	1	5 54.8	27	10½		48	31	13 37.1
26	10½		33	8	6 9.5	27	II		48	36	13 38.2
27	12		33	12	13 30.6	26	12		49	15	7 31.5
27	12		33	22	13 32.1	27	9½		49	18	13 48.0
27	II		33	36	13 32.9	26	10½		49	27	7 42.1
27	9		33	46	13 37.8	26	12°		49	43	7 49.1
27	II½		34	27	13 44.3	27	II		49	55	13 30.5
26	II		34	31	5 59.3	27	9		50	43	13 36.4
27	II½		34	41	13 41.5	27	II½		50	54	13 47.2
26	10		34	53	5 51.4	26	II		50	56	7 37.9
26	II½		34	59	5 53.2	26	II		50	57	7 34.9
27	8		35	47	13 40.6	26	II		51	12	7 45.2
27	12		36	3	13 41.2	27	II		51	48	13 32.8
27	II½		36	17	13 45.8	26	10½		52	3	7 32.4
27	10		36	47	13 43.5	26	II		52	19	7 42.4
27	II½		37	51	13 35.7	27	10½		52	24	13 34.8
27	12		38	26	13 33.6	27	9		52	50	13 36.3
27	12		38	31	13 36.4	26	II		53	11	7 31.9
27	II		38	42	13 33.8	26	10½		53	52	7 37.1
27	12		39	29	13 46.8	26	9½		53	57	7 49.1
27	12		39	32	13 47.7	26	12		54	12	7 39.2
27	9½		39	46	13 45.9*	27	12½		54	27	13 32.3
27	II		40	51	13 37.4	26	10		54	32	7 47.3
27	10½		40	55	13 30.2	27	II		55	29	13 46.9
27	10½		41	40	13 33.0	26	II		55	42	7 41.6
27	9½		41	56	13 47.4	26	II		56	6	7 36.7
27	10½		42	17	13 33.7	26	II½		56	30	7 36.7
27	12		43	30	13 33.1	26	II		56	33	7 34.4
27	10		1 43	44	+13 35.5	26	II		1 57	3	+7 36.3

\*f. of double.

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup> <sup>'</sup> <sup>''</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup> <sup>'</sup> <sup>''</sup>
27	12	1 57 20	+13	34.5	27	11	2 16 46	+13	33.6
27	8	57 35	13	50.7	27	11	17 5	13	46.1
27	11	58 26	13	41.6	27	10½	18 39	13	47.6
27	10½	58 31	13	32.3	27	11	18 42	13	43.7
27	12	58 38	13	31.9	27	10	19 24	13	46.4
26	11	59 0	7	43.4	27	10	19 58	13	48.3
26	11	59 20	7	49.3	27	10½	20 34	13	43.6
27	9	1 59 39	13	35.2	27	9	20 51	13	43.9
26	9½	2 0 17	7	51.1	27	11	21 2	13	33.1
26	11	0 22	7	34.7	27	10	21 13	13	35.3
27	9	0 31	13	41.8	27	11	21 24	13	34.7
27	9½	0 55	13	43.5	27	11	22 45	13	34.4
26	12	1 33	7	33.7	27	11	23 2	13	38.8*
26	11	1 49	7	36.0	27	11	23 26	13	38.7*
26	11	1 49	7	33.6	27	11½	24 59	13	35.9
27	9½	1 55	13	38.2	27	11	25 5	13	32.8
26	11½	3 10	7	47.1	27	9½	25 30	13	45.0
27	11	4 32	13	42.4	27	10	26 34	13	41.6
26	12	4 40	7	48.6	27	9	26 35	13	48.4
26	12	4 51	7	48.7	27	11	26 38	13	41.1
27	11	7 46	13	34.4	27	10	26 46	13	43.1
27	11	7 58	13	33.3	27	11½	27 40	13	30.3
27	11	8 19	13	33.3	27	10½	28 33	13	43.1
27	10	8 28	13	42.2	27	10	28 38	13	34.5
27	11	10 4	13	37.8	27	11	29 10	13	43.3
27	11	10 15	13	46.9	27	11	29 12	13	43.7
27	12	11 25	13	48.5	27	11	29 58	13	41.9
27	11	11 30	13	35.1	27	10	30 45	13	42.5
27	10	12 21	13	31.8	27	11½	31 1	13	42.2
27	10½	13 12	13	29.3	27	9½	32 14	13	35.1
27	11½	13 26	13	31.8	27	10	34 0	13	44.0
27	11	14 33	13	46.9	27	11	34 25	13	42.2
27	12	14 50	13	40.9	27	11	35 33	13	34.2
27	10	15 25	13	28.4	27	10½	36 17	13	46.3
27	8½	2 16 36	+13	32.8	27	11	2 36 59	+13	32.2

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>°</sup>			<sup>h. m. s.</sup>	<sup>°</sup>
27	10	2 37 29	+13 36.9	27	9	2 48 29	+13 37.0
27	11	38 8	13 44.8	27	12	48 43	13 38.5
27	11	38 32	13 44.5	27	11	48 58	13 34.5
27	11	38 38	13 43.1	27	10	49 14	13 37.0
27	9½	38 45	13 35.2	27	9½	49 18	13 43.7†
27	9	38 56	13 44.1	27	10	50 36	13 31.5
27	10	39 6	13 32.9	27	9½	51 35	13 42.8
27	9	40 12	13 49.3	27	11½	52 25	13 48.2
27	10	40 18	13 41.4	27	11	52 31	13 44.2
27	10½	40 53	13 43.2	27	11	53 30	13 40.9*
27	9½	40 56	13 46.2	27	12	53 38	13 31.7
27	10	41 5	13 46.1	27	10½	54 51	13 33.7
27	11	42 4	13 43.1	27	9	55 4	13 44.1
27	10½	42 22	13 45.1	27	11½	55 5	13 38.6
27	11	42 35	13 40.9*	27	10	55 33	13 40.8*
27	11	42 41	13 43.4	27	11	57 4	13 46.8
27	11	42 53	13 38.7	27	8½	57 9	13 41.4
27	11	43 6	13 39.0	27	8½	57 32	13 41.0*
27	8	43 32	13 36.8	27	11	59 8	13 44.4
27	9	44 30	13 28.7	27	10½	59 20	13 46.3
27	10½	44 45	13 31.7	27	10½	2 59 36	13 32.2
27	11	45 47	13 44.1	27	10	3 0 8	13 33.0
27	10½	45 53	13 47.0	27	9½	0 36	13 42.0
27	10½	45 56	13 43.1	27	11	1 48	13 49.5
27	9	46 59	13 48.0	27	11	1 54	13 49.0
27	10½	47 0	13 46.3	27	10	2 0	13 38.6
27	11	2 47 4	+13 38.9	27	9	3 2 29	+13 46.4

\* (4).

† p. of double.

APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850, .

OF

912 STARS NEAR THE ECLIPTIC,

OBSERVED IN DECEMBER, 1851, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
II	9	<sup>h. m. s.</sup> 23 45 3	<sup>°</sup> —1 50.9	22	12	<sup>h. m. s.</sup> 0 2 42	<sup>°</sup> +4 33.6
II	10½	46 49	2 3.0	II	II	2 48	—1 51.0
II	II	50 53	1 49.6	22	II½	2 51	+4 36.0
II	II½	52 3	2 3.5	22	II	3 38	4 45.3
II	12½	52 28	2 3.8	22	II½	4 9	4 33.9
II	12	53 10	2 8.1	22	12	4 18	4 37.3
II	12	53 22	—2 3.1	22	II	4 25	4 31.7†
22	II½	56 42	+4 42.0	22	9	5 8	+4 47.6
22	10	56 44	4 44.1	II	12	5 11	—2 6.4
22	10½	56 54	+4 37.1	22	II	5 22	+4 44.9
II	II	57 0	—1 55.9	22	10	5 23	4 47.7
II	12	57 16	—1 51.6	22	II	5 29	+4 46.4
22	10½	57 26	+4 42.9	II	12	5 38	—2 7.7
II	II	57 56	—2 5.9	22	II	6 1	+4 43.5‡
22	10	58 44	+4 38.1	II	10½	6 3	—1 49.3
22	12	58 50	+4 38.3	II	10	6 40	—2 1.3
II	12	58 53	—2 2.7*	22	II	7 3	+4 43.3
22	10	59 7	+4 44.1	22	12	7 11	+4 46.9
22	10	59 20	4 43.5	II	II	7 35	—1 50.6
22	9½	23 59 35	4 35.7	22	II	8 2	+4 39.5
22	10½	0 0 31	4 37.8	II	II	8 3	—1 54.7
22	9½	0 48	4 47.6	II	II	8 4	1 52.0
22	12	0 56	+4 43.8	II	10½	8 6	—1 48.0
II	II	1 7	—1 55.8	22	10½	8 12	+4 47.3§
22	10½	1 7	+4 38.0	II	II	8 19	—1 55.0
II	II	1 22	—2 2.8	II	10	9 12	1 49.7.
II	12	2 17	—1 49.6	II	10	9 45	1 54.7
22	12	2 22	+4 38.3	II	10	10 4	1 52.7
II	12½	2 26	—1 50.1	II	10½	10 51	—2 48.6
22	12	0 2 27	+4 34.9	22	II½	0 11 3	+4 44.6

\* N. p. of double. † An 11th Mag. f. ‡ L. of double. § p. of double.

K



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
22	11½	0 11 16	+4 45.7	22	9	0 19 32	+4 48.6
22	10	11 19	4 48.2	11	12	19 41	-2 4.8
22	11½	11 35	+4 38.9	11	12	19 42	-2 6.0
11	11	11 52	-2 5.0	22	11½	20 18	+4 35.3
11	10½	11 52	-2 5.7	22	11½	20 49	4 46.9
22	11	12 30	+4 45.7	22	10½	21 14	4 46.4
22	10	12 31	+4 39.3	22	10	21 22	+4 30.0
11	12	12 33	-1 50.2	11	11	21 45	-2 0.9
11	11½	12 51	2 4.1	22	9½	22 3	+4 34.4
11	11	13 6	-2 4.3	22	11½	22 18	+4 35.2
22	11	13 9	+4 43.1	11	10½	22 21	-2 7.3
22	11½	14 24	4 47.9	22	9	22 32	+4 32.1
22	12	14 31	4 43.1	22	12	23 22	4 45.6
22	12	14 47	4 36.9	22	11½	23 24	+4 46.8
22	11	14 57	4 32.1	11	12	23 28	-1 56.0
22	10	15 16	+4 41.9*	22	12	23 38	+4 48.9
11	10½	15 44	-2 4.8	22	12	23 41	+4 46.7
22	10	15 51	+4 41.7	11	12	24 0	-2 2.2
22	11½	16 12	4 37.9	11	10	24 20	-2 3.8†
22	11½	16 27	+4 33.1	22	11½	24 32	+4 35.9
11	11	16 49	-2 2.3	22	11½	24 40	4 35.9
11	10	17 4	1 50.3	22	10	24 51	4 32.0
11	12	17 17	1 59.8	22	10½	24 52	+4 35.9
11	12	17 18	-1 59.6†	11	12	25 2	-2 6.4
22	11½	17 28	+4 35.2	22	9½	25 44	+4 38.4
22	10½	17 43	4 48.5:	11	10	25 52	-2 4.0
22	11	17 57	+4 45.0:	22	12	25 54	+4 39.3
11	11½	18 0	-2 1.5	22	12	26 40	4 46.7
22	10½	18 32	+4 37.1	22	10½	27 36	4 46.1
11	10½	18 42	-2 1.1	22	10½	27 38	+4 48.7
22	9½	18 45	+4 37.7	11	9½	27 49	-1 54.7
11	10½	18 59	-1 58.3	22	10	28 24	+4 40.1*
22	11½	19 22	+4 44.0	22	11½	28 24	+4 32.9
22	12	19 31	-2 2.6	11	11	28 45	-1 46.7
11	11	0 19 32	-2 0.2	22	12	0 29 2	+4 33.1:

\* (4).

† Not same as preceding.

‡ N. p. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
11	12	0 29 21	-2 2.4	22	12	0 43 51	+4 33.4
22	12½	30 7	+4 32.9	22	12	43 59	4 45.9
22	12	30 29	4 36.4	22	10½	44 13	4 33.6
22	10	30 51	4 37.3	22	12	44 49	4 47.6
22	10½	31 3	4 31.7	22	10	44 59	4 45.8
22	11	31 15	+4 43.1	22	10	45 46	4 42.6
11	11	31 40	-1 52.9	22	10½	46 12	4 48.1
22	12½	32 36	+4 43.3	22	12½	46 57	4 45.2
11	10	33 13	-2 3.6	22	12	47 12	4 45.0
22	11½	33 14	+4 42.2	22	12	47 19	4 37.7
11	11½	33 16	-2 4.6	22	11	47 37	4 44.2
22	11	33 28	+4 36.0	22	12½	48 56	4 43.5†
22	8	33 57	4 45.0	22	10½	49 4	4 32.4
22	11½	33 58	+4 48.2	22	10	49 22	4 49.1
11	11	34 11	-2 4.2	22	12	50 7	4 44.3
11	11½	34 26	2 4.7	22	10	50 20	4 34.4
11	9½	34 28	-2 1.7	22	12	50 24	4 38.0
22	9	34 31	+4 52.2	22	10	51 27	4 32.3
22	7	34 48	4 51.3	22	10½	52 38	4 34.6
22	11	34 53	4 48.8	22	10½	52 43	4 32.2
22	10	35 0	4 39.5	22	10	52 54	4 42.9
22	12	35 10	4 39.3	22	12	53 51	4 43.5
22	9½	36 4	4 39.3*	22	11	54 39	4 37.7
22	9½	36 42	4 44.2	22	11	54 47	4 37.6
22	10	37 45	4 48.7	22	11	54 48	4 35.1
22	10½	38 19	4 45.6	22	10½	55 2	4 33.7
22	10½	39 29	4 36.3	22	10	56 54	4 48.9
22	10½	39 47	4 34.3	22	10	57 39	4 47.1
22	10	39 56	4 34.9	22	10	58 9	4 40.0
22	11	40 52	4 42.2	22	10½	0 58 38	4 39.3
22	12	40 56	4 42.2	22	10½	1 0 46	4 49.6
22	10	42 28	4 42.4	22	10½	0 47	4 42.2
22	11	42 36	4 36.3	22	10	0 47	4 31.9
22	12	42 39	4 35.2	22	10	1 50	4 39.9
22	10½	0 43 47	+4 43.5	22	10½	1 2 24	+4 47.1

\* (4).

† p. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>	<sup>°</sup>
22	10½	I 2 29	+4 48.0	22	8	I 22 46	+4 35.8
22	10½	4 35	4 45.4	22	11	22 59	4 33.9
22	10½	4 38	4 45.1	22	9½	23 58	4 48.7
22	11	5 6	4 38.1	22	11½	24 6	4 47.2
22	10	6 27	4 34.6	22	11½	24 57	4 38.7†
22	10	6 28	4 38.6	22	9	25 13	4 36.5
22	10½	6 39	4 29.5	22	11½	25 30	4 34.6
22	10	7 23	4 42.1	22	11	26 51	4 35.9
22	10½	7 43	4 33.9	22	12½	26 57	4 34.3
22	10½	8 6	4 41.9*	22	11	27 23	4 36.0
22	11	10 41	4 38.7	22	9½	27 59	4 31.4
22	10	10 51	4 39.0	22	9½	28 25	4 42.1*
22	11	12 11	4 42.9	22	10	28 46	4 43.2
22	11½	12 43	4 37.5	22	12	28 48	4 48.9
22	11½	13 21	4 36.5	22	10½	31 5	4 49.1
22	9	13 24	4 50.1	22	11	31 19	4 48.9
22	10½	13 48	4 32.6	22	11	31 36	4 43.8
22	10	13 51	4 46.8	22	10	32 2	4 44.7
22	11½	14 33	4 34.8	22	10	32 3	4 46.8
22	10½	14 54	4 37.5	22	11	32 21	4 47.6
22	10½	14 58	4 49.9	22	10½	32 48	4 43.1
22	11½	14 59	4 46.0	22	9½	I 32 51	4 49.4
22	12	15 52	4 32.7	12	10	2 3 7	15 8.3
22	12	16 25	4 33.6	12	10½	4 8	14 56.6
22	10½	16 37	4 46.0	12	9	4 26	15 5.4
22	11	17 43	4 43.8	12	11½	5 0	15 5.1
22	11	17 53	4 37.1	12	11	5 21	15 7.9
22	11	18 6	4 44.4	12	11	5 34	15 2.6*
22	10½	19 26	4 36.1	12	8½	5 58	15 8.9
22	10½	20 14	4 32.2	12	10½	6 28	14 57.8
22	12	21 5	4 44.7	12	12	6 57	15 9.1
22	9½	21 10	4 44.8	12	11½	7 6	15 9.6
22	9½	21 11	4 47.6	12	10	7 8	15 1.8*
22	10	22 4	4 50.2	12	12	7 53	15 4.8
22	11	I 22 22	+4 42.3	12	11	2 8 46	+14 57.3

Days Obs.	Mag.	$\alpha$ .	$\delta$ .	Days Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
12	11	2 9 13	+14 54.8	12	10 $\frac{1}{2}$	2 27 56	+14 53.6
12	12 $\frac{1}{2}$	9 19	15 1.8	22	11	28 50	19 47.4
12	10	10 13	15 10.6	12	12	28 56	15 9.2
12	11	10 53	14 51.4	22	10	28 59	19 36.8
12	11	11 5	15 4.0	22	9 $\frac{1}{2}$	29 13	19 49.8
12	11	11 23	14 54.3	12	12	29 29	15 10.4
12	12	12 20	14 53.1	12	11	29 41	14 55.3
12	11	12 25	15 7.2	22	10	30 0	19 35.9
12	12	12 45	14 52.7	22	9 $\frac{1}{2}$	30 22	19 50.2
12	10 $\frac{1}{2}$	12 56	14 53.0	12	11	30 27	14 56.5
12	11 $\frac{1}{2}$	13 58	15 2.8	22	10 $\frac{1}{2}$	30 27	19 44.6
12	11 $\frac{1}{2}$	14 0	15 7.0	12	11 $\frac{1}{2}$	30 36	14 57.7
12	10	14 0	15 10.6	12	10 $\frac{1}{2}$	30 39	14 56.6
12	10 $\frac{1}{2}$	14 9	15 1.8	22	12	32 3	19 50.9
12	11	16 37	15 0.2	12	10	32 7	14 58.9
12	9 $\frac{1}{2}$	18 11	14 49.2	22	12 $\frac{1}{2}$	32 14	19 46.7
12	11 $\frac{1}{2}$	18 18	15 4.4	12	9 $\frac{1}{2}$	32 16	14 57.3
12	10 $\frac{1}{2}$	18 55	15 4.8	12	11 $\frac{1}{2}$	32 34	15 8.8
12	11	20 0	14 56.9	22	11	33 6	19 43.1*
12	11	20 4	14 52.7	12	10	33 10	15 7.8
12	10	20 46	15 10.0	22	11	33 45	19 43.4
12	11	21 13	14 56.6	12	11 $\frac{1}{2}$	34 56	14 57.1
12	11 $\frac{1}{2}$	21 54	15 10.3	22	10 $\frac{1}{2}$	34 58	19 40.2
12	10 $\frac{1}{2}$	22 11	15 6.1	12	11	35 0	15 8.2
12	12	22 20	15 8.9	12	9 $\frac{1}{2}$	35 12	14 58.0
12	11	23 23	15 10.0	12	9	35 44	14 56.3
12	11	23 33	15 3.7	12	9 $\frac{1}{2}$	36 27	14 57.0
12	11	24 9	14 54.5	22	12	36 35	19 37.2
12	12	24 38	15 5.8	22	12	36 41	19 36.0
12	11	25 10	14 57.6	12	10 $\frac{1}{2}$	36 46	14 54.2
12	9 $\frac{1}{2}$	25 19	14 55.2	12	11	37 2	14 55.1
12	12	27 2	14 59.7	12	9 $\frac{1}{2}$	37 22	15 6.3
22	10	27 33	19 29.6	22	11 $\frac{1}{2}$	37 33	19 32.7
12	9 $\frac{1}{2}$	27 35	15 2.7	12	12	38 1	15 4.1
12	11 $\frac{1}{2}$	2 27 53	+14 58.1	22	10	2 39 5	+19 49.6

Days. Obs.	Mag.	$\alpha$		$\delta$	Days. Obs.	Mag.	$\alpha$		$\delta$
		<sup>h.</sup> 2	<sup>m.</sup> 39	<sup>s.</sup> 6	<sup>°</sup> +15	<sup>'</sup> 3.5			
12	II	2	39	6	12	12	2	47	17
22	II		39	8	22	12		47	42
12	II		39	20	12	12		47	50
12	II		40	5	22	10½		48	33
22	12		40	11	12	12½		48	49
22	II		40	19	22	10½		49	1
22	IO		40	25	12	12½		49	16
22	II		40	30	22	12½		49	27
22	II		40	44	22	10½		49	33
12	II		40	47	12	11½		49	36
12	II		40	54	22	10½		49	58
12	10½		40	56	22	10		50	29
12	11½		41	10	22	12		50	34
12	10½		41	12	22	9½		51	11
22	10½		41	24	22	12		51	48
12	11½		41	35	22	12		52	0
22	II		41	37	12	12		52	6
22	10½		41	41	12	12		52	10
22	II		41	51	22	12½		52	22
12	9½		42	16	12	10½		52	27
22	10½		42	32	22	11		52	30
12	II		43	13	22	12		53	38
22	12		43	26	12	11½		53	44
12	11½		43	36	12	10½		53	53
12	11½		43	50	22	11½		54	0
12	IO		43	56	12	12		54	2
12	II		44	0	12	11		56	15
22	12		44	12	12	11½		56	33
22	12		44	34	22	12½		56	35
22	12		44	37	12	12½		58	0
12	11½		44	58	12	12		58	35
22	9½		45	25	12	12		58	41
12	10½		46	10	12	12		58	43
12	10½		46	22	12	IO		59	16
12	12		2	46	12	IO		2	59
			52					16	

\* S. of double.

† L. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
22	12	2 59 19	+19 37.1	22	11½	3 10 2	+19 40.6:
22	10	2 59 55	19 38.2	12	11½	10 15	14 53.5†
22	10½	3 0 29	19 45.7	22	11	10 24	19 40.1
12	12	0 58	14 57.2	22	10	10 46	19 45.3
12	12	1 5	14 56.4	12	12½	11 15	14 57.3
12	12	1 16	15 2.1	12	12	11 17	15 5.3
12	9	1 31	15 6.2	22	11½	12 36	19 34.2
12	11½	2 38	14 54.8	12	11	12 44	15 10.7
22	9	2 51	19 39.3	22	11	12 49	19 46.2
12	9½	3 8	14 52.2	12	10½	12 52	15 3.3
12	11	3 38	15 3.3	22	10½	13 22	19 38.8
12	12	3 59	15 2.3	22	10	13 59	19 35.8
22	9	4 11	19 50.0	12	11½	14 11	14 54.4
22	11½	4 23	19 34.2	22	10	14 30	19 39.4
22	12	4 49	19 36.5	12	11	14 53	14 58.2
12	11½	5 12	15 3.3*	22	10½	14 54	19 36.4
12	11	5 19	14 56.2	22	10½	15 11	19 36.7
22	12	5 31	19 35.8	12	10	15 14	15 7.7
22	12	5 50	19 46.4	12	12	15 17	15 3.3
22	12	5 50	19 49.9	12	10½	16 1	15 5.0
22	9	6 12	19 46.8	22	10	16 4	19 40.3
12	11	6 31	14 53.0	12	11	16 16	14 53.7
22	10½	7 19	19 30.5	22	11	16 36	19 43.9†
12	12	7 22	14 58.1	22	9	16 43	19 48.3
22	11½	7 47	19 33.0	12	10	17 13	14 58.1
12	10	8 12	15 4.9	12	12	17 14	14 55.5
22	11½	8 15	19 33.1	12	9½	17 38	15 0.1†
22	11½	8 16	19 33.4	22	12	18 25	19 43.0
12	12	8 42	15 4.3	12	11	18 30	15 4.7
12	12	8 43	15 4.4	12	10½	18 41	15 1.8†
12	10	8 52	14 57.0	22	12	18 44	19 41.2
12	11½	9 2	14 54.4	12	10	18 47	14 55.0
22	12	9 11	19 33.3	22	11	19 8	19 49.1
22	12	9 22	19 38.1	22	10	19 53	19 33.3
12	10½	3 9 59	+14 52.5	12	12	3 19 59	+14 53.1

\* Double.

† p. of double.

‡ (4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>°</sup>			<sup>h. m. s.</sup>	<sup>°</sup>
22	9	3 20 2	+19 38.5	22	11½	3 36 28	+17 14.7
22	11½	20 6	19 35.0	22	10	37 7	17 18.9*
12	10½	20 44	14 59.9*	22	11½	37 8	17 15.8
22	11	20 44	19 32.6	22	12	37 17	17 12.2
12	11½	20 51	14 53.1	22	9	37 52	17 26.8
12	12½	20 57	14 55.9	22	11½	38 45	17 28.2
22	11½	21 19	19 32.9	22	12½	38 50	17 29.1
22	12	21 21	19 35.6	22	12½	39 30	17 25.3
22	9	21 45	19 38.2	22	11½	39 37	17 24.4
12	11½	22 6	14 56.7	22	10½	39 57	17 22.6
12	11	22 7	14 52.5	22	11½	40 15	17 16.2
12	10½	22 19	14 54.8	22	9	40 48	17 21.0*
12	11	22 53	15 11.4	22	10	40 48	17 16.5
12	11½	23 44	15 6.8	22	10½	41 20	17 27.7
12	12½	24 48	14 52.9	22	12	42 3	17 12.5
12	9½	24 55	15 1.6*	22	11½	42 19	17 26.0
12	10½	25 15	14 53.6	22	10½	42 54	17 23.3
12	11	25 57	15 2.0	22	11	43 19	17 24.9†
12	10½	25 58	15 1.1	22	12	44 30	17 27.4:
12	11½	26 48	14 56.0	22	12	44 36	17 26.7
12	10	27 25	14 56.2	22	12½	44 51	17 25.6
12	11	27 39	15 6.8	22	10½	44 53	17 25.9
12	10	27 49	14 52.8	22	12	45 10	17 27.1
12	10	28 25	14 49.6	22	11	45 58	17 22.9
12	10	28 47	15 8.1	22	10½	46 15	17 27.7
12	10½	29 5	15 4.9	22	11	46 46	17 22.0:
12	10½	29 14	15 5.3	22	11	46 49	17 28.1
12	12	30 20	14 54.3	22	10½	47 37	17 30.6
12	12	30 20	14 52.8	22	11	47 45	17 18.1
12	11½	31 2	15 10.2	22	10½	48 8	17 15.3
12	11	31 14	15 0.4	22	11½	48 52	17 26.5
12	10	32 13	15 2.9	22	12	49 2	17 22.0
12	12	33 5	15 1.1	22	11	49 42	17 27.9
22	11	35 38	17 27.8	22	12	50 16	17 25.2
22	12	3 35 42	+17 26.7	22	12	3 50 32	+17 26.2

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>°</sup>			<sup>h. m. s.</sup>	<sup>°</sup>
22	9	3 51 15	+17 16.1	22	11	4 11 19	+17 24.5
22	9½	51 57	17 22.7	22	11	11 20	17 23.4
22	9½	51 59	17 18.7*	22	12	11 21	17 29.6
22	9½	52 8	17 28.1	22	12	11 35	17 23.6
22	12	53 8	17 29.2	22	11	12 17	17 16.1
22	10½	53 25	17 29.6	22	11	12 57	17 17.8
22	10	53 42	17 31.8	12	11	13 5	20 17.3
22	10	54 16	17 30.6	22	11	13 9	17 26.9
22	11	54 27	17 25.6	12	11½	14 5	20 28.6
22	11½	54 53	17 27.5	22	11	14 32	17 17.8
22	11	55 15	17 21.6*	22	11½	14 39	17 18.9
22	12½	55 28	17 28.1	22	11	15 14	17 21.7
22	12	55 31	17 22.9	12	12	15 15	20 13.3
22	12	55 57	17 22.1	12	12	15 19	20 12.8
22	10½	57 37	17 24.4	22	10½	15 26	17 12.0
22	10½	57 42	17 26.8	12	11	15 35	20 15.4
22	11	58 13	17 23.2	22	11½	15 39	17 11.9
22	10½	3 59 17	17 26.1	12	11½	16 1	20 13.9
22	11	4 0 2	17 9.2	22	11½	16 1	17 22.8
22	12	0 29	17 12.3	22	11½	16 1	17 22.0
22	12	0 57	17 15.3	22	12	16 6	17 30.6
22	9	1 25	17 25.3	22	11½	17 49	17 24.0
22	11	1 34	17 13.5	12	12	17 54	20 28.0
22	12	3 32	17 15.7	22	11½	18 7	17 25.1
22	11	4 5	17 21.7	12	12	18 22	20 25.0
22	11½	4 26	17 18.4	22	10½	18 22	17 26.1
22	12	4 48	17 24.6	22	11½	18 24	17 23.7
22	11½	4 59	17 20.3	22	10	18 24	17 28.4
22	12½	5 53	17 13.8	12	12	18 29	20 25.1
22	11½	6 33	17 16.6	12	11½	19 7	20 22.3
22	11	7 12	17 22.0	22	12½	19 56	17 10.7
22	10	7 24	17 17.9	22	11½	20 0	17 20.9
22	10½	7 34	17 19.3*	22	12½	20 0	17 11.1
22	11	7 34	17 24.8	22	11½	20 2	17 21.3
22	12	4 11 16	+17 27.3	12	10½	4 20 17	+20 16.3



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
12	10½	4 20 18	+20 21.8*	22	12½	4 31 51	+17 11.6
12	10	21 37	20 12.9	18	10	32 14	25 36.9
22	9½	21 45	17 27.3	12	10	32 33	20 18.5*
22	10	22 6	17 19.4	12	11	32 35	20 29.6
12	12½	22 11	20 27.6	18	10½	33 11	25 33.6†
12	11½	22 22	20 28.3	18	12½	33 41	25 33.1
22	9	22 37	17 13.6	22	12	33 41	17 17.7
22	12	22 41	17 17.4	22	12	33 58	17 15.8
12	10	22 49	20 27.4	22	12	33 58	17 14.4
12	10½	22 51	20 11.3	12	10½	33 59	20 29.3
22	9½	22 53	17 25.4	12	12	34 0	20 14.5
22	9½	22 57	17 23.0	12	10½	34 43	20 22.0
12	10½	23 11	20 17.2	18	12	34 43	25 43.8
12	12	23 23	20 13.4	18	11	35 13	25 46.6
22	11	23 31	17 23.7	18	9	35 28	25 39.0*
22	12	23 56	17 23.5	12	12	35 29	20 18.1
22	10	24 21	17 24.3	12	12	35 35	20 15.2
22	11	24 35	17 22.8	18	11½	35 53	25 47.3
12	11	24 38	20 13.9	18	11	36 2	25 45.7
12	11	24 56	20 15.4	12	11	36 19	20 24.7
22	11	25 1	17 25.4	18	11	36 21	25 45.2
12	10	25 27	20 11.0	12	12	37 27	20 25.4
22	12	25 37	17 22.5	18	10½	37 35	25 45.6
22	12	25 37	17 24.9	18	11½	38 0	25 35.8
12	11	26 52	20 21.9	12	11	38 3	20 11.3
12	12	27 4	20 14.0	12	10	38 21	20 16.3
12	11	27 7	20 25.5	12	11	38 47	20 29.9
22	12	27 24	17 9.2	12	12	38 54	20 23.5
12	12	27 34	20 24.7	12	11	39 40	20 25.8
12	9½	28 3	20 29.8	12	10½	40 3	20 29.8
12	11½	28 4	20 27.1	18	10½	40 25	25 45.7
22	12½	28 13	17 25.9	12	10½	40 56	20 16.7
22	12½	28 19	17 25.9	12	10½	41 8	20 28.7†
22	11½	29 13	17 24.7	18	10	41 13	25 46.9
12	1½	4 29 27	+20 12.8	18	10	4 41 26	+25 43.2

Days.Obs.	Mag.	$\alpha$ .		$\delta$ .	Days.Obs.	Mag.	$\alpha$ .		$\delta$ .
		h. m. s.		$^{\circ}$			h. m. s.		$^{\circ}$
12	10	4 42 7	+20	14.4	10	11	4 52 51	+20	54.4
12	11	42 12	20	11.4	18	12	53 9	25	43.4
12	10 $\frac{1}{2}$	43 0	20	15.9	12	11	53 14	20	23.7
12	12	43 7	20	18.0	12	10 $\frac{1}{2}$	53 16	20	27.1
12	10	43 29	20	24.8	18	10	53 57	25	40.5
18	11	43 39	25	30.9	12	11 $\frac{1}{2}$	54 14	20	13.8
12	11 $\frac{1}{2}$	44 28	20	19.3	18	12	54 51	25	46.4
12	11	44 33	20	15.8	12	11 $\frac{1}{2}$	54 57	20	25.2
12	10	44 41	20	24.9	12	12	55 11	20	27.0
18	11	44 45	25	49.4	12	11	55 24	20	28.4
18	10 $\frac{1}{2}$	44 50	25	41.7*	12	11 $\frac{1}{2}$	55 33	20	22.8
12	12	44 51	20	25.6	12	11 $\frac{1}{2}$	56 45	20	26.8
18	11	45 8	25	33.9	18	11	57 3	25	35.3
12	11	46 0	20	13.2	10	11	57 35	20	54.7
12	11	46 29	20	19.2	12	9 $\frac{1}{2}$	57 49	20	30.0
18	11	46 49	25	52.5	10	10 $\frac{1}{2}$	57 54	20	55.8
18	11	47 9	25	47.2	12	10	57 56	20	15.0
12	11	47 21	20	18.4	12	10	58 23	20	26.1
12		47 33	20	30.9	10	11 $\frac{1}{2}$	58 43	21	7.8
18	9 $\frac{1}{2}$	47 45	25	32.2	10	11	59 12	20	54.7
18	9 $\frac{1}{2}$	47 49	25	35.0	12	11	4 59 52	20	32.8
12	10	47 51	20	24.6	12	11	5 0 2	20	27.3
18	10	48 34	25	28.9	10	11 $\frac{1}{2}$	0 20	21	6.5
12	11 $\frac{1}{2}$	49 16	20	24.6	10	11	0 21	20	59.8
18	11	49 17	25	31.6	10	12	0 37	21	4.5
18	11 $\frac{1}{2}$	49 22	25	46.8	12	10	0 44	20	23.3
12	12	49 30	20	26.9	10	10	0 45	20	52.6
12	12	49 45	20	23.1	10	9 $\frac{1}{2}$	1 56	21	9.2
18	12	50 30	25	42.3	10	11 $\frac{1}{2}$	2 12	21	8.6
12	12	50 31	20	15.3	12	10 $\frac{1}{2}$	3 20	20	22.6
18	10 $\frac{1}{2}$	50 42	25	41.8*	12	12	3 22	20	25.8
10	11	50 53	20	52.0	12	11	3 26	20	15.3
12	12	50 54	20	14.8†	10		3 53	21	0.7
12	11	52 22	20	21.5	10	11	4 9	20	55.7
18	9	4 52 23	+25	44.4	10	10	5 4 15	+20	59.5*

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		$^{\text{h.}}$	$^{\text{m.}}$	$^{\text{s.}}$	$^{\circ}$			$^{\text{h.}}$	$^{\text{m.}}$	$^{\text{s.}}$	$^{\circ}$
12	II	5	4	36	+20 27.5	10	II	5	21	11	+21 10.2
12	II		4	39	20 26.8	10	10 $\frac{1}{2}$	22	10		21 11.9
12	12		4	51	20 26.3	10	10 $\frac{1}{2}$	22	11		21 8.6
10	II		5	51	20 55.1	10	II	22	19		21 11.9
12	10		6	16	20 27.9	10	II	22	24		20 58.7
12	11 $\frac{1}{2}$		6	23	20 26.6	10	11 $\frac{1}{2}$	23	32		20 57.6
10	II		6	49	20 56.7	10	10	23	34		20 53.6
10	10 $\frac{1}{2}$		6	50	20 57.3	10	11 $\frac{1}{2}$	23	35		20 57.8
10	10		7	11	21 1.0	10	10	24	17		21 6.9
10	10		7	40	21 3.7	10	II	24	54		21 6.3
10	11 $\frac{1}{2}$		8	46	20 54.5	10	11 $\frac{1}{2}$	24	58		21 5.5
10	II		8	48	20 59.9	10	10	25	13		20 54.6
10	11 $\frac{1}{2}$		8	49	20 56.4	10	9	27	26		21 5.1†
12	II		10	3	20 17.3	10	II	29	15		20 53.7
12	10		10	9	20 15.7	10	10 $\frac{1}{2}$	29	51		20 59.8
10	10		10	36	20 51.2	10	11 $\frac{1}{2}$	30	13		20 58.0
12	II		10	38	20 19.1	10	11 $\frac{1}{2}$	30	22		20 58.0
12	II		10	49	20 23.2	10	10	30	36		20 55.4
10	II		11	10	20 57.2	10	9 $\frac{1}{2}$	30	52		21 0.4*
12	II		11	18	20 23.3	10	10 $\frac{1}{2}$	30	58		20 54.4
10	10		11	40	20 55.2	10	9 $\frac{1}{2}$	32	30		21 3.2
12	II		11	56	20 31.0	10	10 $\frac{1}{2}$	32	40		21 3.3
12	II		12	46	20 13.1	10	10 $\frac{1}{2}$	32	43		20 57.2
10	II		13	30	20 57.8	10	10	32	46		20 50.4
10	11 $\frac{1}{2}$		13	53	20 54.6	10	II	34	30		21 3.9
10	II		14	4	20 59.0	10	10	34	40		20 57.8
10	10 $\frac{1}{2}$		16	4	21 3.2	10	10 $\frac{1}{2}$	35	54		20 56.6
10	10 $\frac{1}{2}$		16	13	21 7.5	10	10 $\frac{1}{2}$	36	6		20 53.4
10	10		16	31	21 2.3*	10	II	36	16		20 57.7
10	II		17	20	21 5.3	10	11 $\frac{1}{2}$	40	39		21 3.6
10	II		18	35	20 58.6	10	II	40	47		20 55.5
10	12		18	44	20 57.3	10	11 $\frac{1}{2}$	40	55		20 58.2
10	II		19	30	20 53.4	10	II	41	5		20 58.3
10 $\frac{1}{2}$	10 $\frac{1}{2}$		20	49	21 0.5*	10	10 $\frac{1}{2}$	41	48		20 55.2
10	12 $\frac{1}{2}$	5	21	9	+21 5.1	10	9 $\frac{1}{2}$	5	42	41	+21 0.1*

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>		<sup>°</sup>
10	10	5 43 49	+21	7.7	10	11½	6 1 43	+20	59.7
10	10	45 1	20	50.3	10	10½	2 3	20	57.4
10	12	45 6	20	55.7	10	11	2 5	20	59.4
10	11	45 10	21	0.0	10	11	3 29	20	49.5
10	9½	45 18	20	49.2	10	11½	4 24	21	6.2
10	10½	46 38	21	8.0	10	10	4 36	20	53.4
10	10	46 48	21	8.8	10	11	4 37	21	5.4
10	11½	47 50	21	3.5	10	10½	5 40	21	9.1
10	9	48 4	21	9.0	10	10	6 8	20	57.3
10	11	48 54	21	9.4	10	12	6 27	20	55.8
10	11	49 8	21	6.6	10	11	7 13	20	54.0
10	10½	49 14	20	56.3	10	10	7 22	20	57.3
10	10½	49 15	20	53.9	10	12	8 4	20	52.3
10	10½	51 0	20	57.4	10	9	8 32	20	51.4
10	10	51 26	20	53.4	10	11	8 47	20	52.0
10	10	51 48	20	52.5	10	11½	9 28	21	8.3
10	10	52 41	21	7.7	10	11½	9 35	21	4.4
10	10	52 53	20	54.5	10	11	9 50	20	59.6
10	12	53 9	20	57.4	10	10½	10 11	20	54.4
10	10½	53 37	21	7.4	10	11	11 30	21	4.4
10	11½	54 10	21	5.8	10	11½	11 31	21	6.9
10	11	54 41	20	58.3	10	11½	11 55	21	7.5
10	10½	54 58	20	53.3	10	10½	12 26	20	53.2
10	12	55 38	20	54.3	10	10½	12 59	20	52.8
10	10½	55 55	20	54.9	10	9½	13 14	21	4.2
10	10½	56 39	20	55.8	10	9	13 26	20	56.4
10	10½	56 55	20	59.0	10	11	13 29	20	53.2
10	11½	57 2	21	0.3	10	10	15 17	20	56.2
10	11½	57 12	20	57.7	10	11½	15 30	21	2.6
10	10½	58 7	20	55.4	10	11	16 10	20	52.1
10	11	5 59 13	21	9.4	10	11	16 18	21	0.0
10	10	6 0 22	20	54.4	10	9½	17 2	21	7.1
10	10	0 26	20	53.9	10	11½	17 8	21	3.6
10	10	0 33	20	53.6	10	10	17 9	20	50.8
10	11	6 0 59	+21	11.0	10	11	6 18 26	+20	57.6

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
10	11	<sup>h. m. s.</sup> 6 19 58	<sup>°</sup> +20 53.6	10	11	<sup>h. m. s.</sup> 6 22 24	<sup>°</sup> +20 53.8
10	9	20 15	20 54.1	10	11½	23 26	21 4.1
10	11	20 25	20 49.8	10	11	23 52	21 6.1
10	10½	21 15	21 8.4	10	11	26 50	20 58.8
10	10	21 20	21 11.0	10	11	27 10	20 57.5
10	11	6 22 19	+20 49.7	10	10	6 28 8	+20 55.7

## APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

## 580 STARS NEAR THE ECLIPTIC,

OBSERVED IN JANUARY, 1852, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
13	11	<sup>h. m. s.</sup> 3 28 43	<sup>°</sup> +22 29.7	13	11½	<sup>h. m. s.</sup> 3 39 22	<sup>°</sup> +22 27.9
13	10½	29 9	22 21.6	13	12	40 13	22 14.6
13	11	29 30	22 27.7	13	11	40 22	22 15.7
13	11½	31 17	22 29.5	13	11½	40 23	22 14.7
13	12	31 33	22 19.4	13	12	40 35	22 15.9
13	12	32 27	22 23.6	13	10½	41 43	22 11.4
13	10½	33 13	22 23.5	13	11	42 25	22 25.3
13	10½	33 58	22 21.9*	13	10½	42 25	22 14.0
13	10½	34 22	22 21.6	13	11½	42 48	22 17.7
13	10	36 12	22 14.6	13	11½	43 25	22 18.2
13	12	36 26	22 13.1	13	10½	44 44	22 14.1
13	11½	37 42	22 16.2	13	9½	45 21	22 25.9
13	12	37 43	22 26.9	13	11	45 26	22 13.0
13	10½	37 56	22 26.7	17	10½	45 53	18 31.0
13	11½	3 39 13	+22 28.5	13	11½	3 45 54	+22 19.7

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.						h. m. s.			
13	12	3 46 27	+22	15.2	13	10	3 53 36	+22	19.3		
13	12	46 31	22	13.2	17	11	53 54	18	12.3		
17	12	46 42	18	12.4	20	11	54 9	18	38.5		
13	12	46 58	22	16.0	20	11	54 10	18	35.3		
17	11	47 19	18	21.8	20	10	54 31	18	44.2		
13	11½	47 43	22	17.4	20	10½	54 32	18	41.5		
17	12½	47 44	18	24.1	13	11	54 50	22	23.3		
17	11½	47 44	18	25.8	17	10	54 51	18	17.1		
17	10½	48 40	18	12.2	13	9½	54 56	22	22.0*		
17	10½	48 47	18	15.0	13	12	55 8	22	11.5		
13	11	48 52	22	28.0	20	10½	55 13	18	39.1*		
13	9	48 53	22	29.1	17	11	55 15	18	13.2		
13	10	49 26	22	28.9	13	12	55 16	22	20.8		
17	11	49 43	18	17.8	17	12½	55 19	18	17.6		
17	12½	49 48	18	12.5	20	9½	55 37	18	47.9		
13	11½	49 58	22	17.3	17	11	55 58	18	16.8		
17	11½	50 8	18	14.7	20	11	56 2	18	43.3		
13	11½	50 47	22	27.4	17	11	56 15	18	12.2		
17	11	50 47	18	13.7	20	11	56 16	18	42.7		
17	11½	50 50	18	14.6	13	12	56 41	22	26.2		
17	12½	50 52	18	15.5	13	12	56 46	22	27.0		
13	11½	50 53	22	29.0	17	10½	56 46	18	23.5		
13	12	51 0	22	28.0	13	9½	56 47	22	23.5		
17	11½	51 13	18	15.3	20	10	57 16	18	32.9		
13	12½	51 53	22	28.2	13	10	57 25	22	25.7		
17	11	52 2	18	15.2	20	11	57 34	18	37.9		
13	11	52 8	22	27.4	17	11½	57 35	18	23.0		
17	11½	52 20	18	23.8	13	12	58 1	22	23.2		
13	11½	52 38	22	29.9	13	11½	58 10	22	23.6		
13	11½	52 46	22	24.8	13	11½	58 19	22	24.4		
17	10	53 20	18	21.7	20	10½	58 26	18	37.9		
17	12½	53 22	18	24.8	17	11½	58 28	18	25.5		
20	11	53 27	18	31.8	13	10½	58 45	22	17.8		
13	10	53 28	22	13.7	20	10½	58 46	18	44.1		
17	12	3 53 32	+18	25.3	13	11	3 59 1	+22	10.5		

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
17	11½	<sup>h. m. s.</sup> 3 59 6	<sup>°</sup> +18 11.7	17	12	<sup>h. m. s.</sup> 4 4 50	<sup>°</sup> +18 10.9
20	11	59 7	18 41.8*	17	12	5 0	18 11.1
17	9½	59 51	18 24.7	13	11½	5 5	22 12.1
13	11½	3 59 54	22 13.0	17	11½	5 14	18 27.4
17	10	4 0 4	18 20.2*	20	11½	5 14	18 33.2
17	10½	0 4	18 13.7	20	11½	5 25	18 39.2
13	12	0 11	22 17.3	13	10	5 28	22 28.7
17	10½	0 21	18 20.8*	17	9½	5 44	18 13.8
20	11	0 33	18 35.0	20	11½	5 46	18 37.1
20	12½	0 33	18 31.4	13	11½	6 16	22 13.3
20	12	0 34	18 33.0	17	9	6 37	18 14.5
13	11	0 57	22 27.8	13	11½	6 52	22 13.8
13	11½	0 58	22 25.4	20	11½	6 55	18 31.1
13	11½	0 58	22 29.9	17	10	7 0	18 24.1
17	10½	1 28	18 14.4	17	10	7 1	18 21.3
17	10½	1 33	18 19.8	17	11	7 2	18 10.8
20	12½	1 53	18 43.1	17	12	7 12	18 23.6
20	12	2 2	18 46.2	13	11½	7 16	22 15.5
20	11½	2 3	18 42.5	13	10½	7 28	22 23.8
20	12	2 22	18 36.7	13	10	7 41	22 24.1
13	11½	2 32	22 21.8	13	12	7 50	22 25.4
13	11	2 36	22 22.2	17	12	7 54	18 10.3
13	11½	2 44	22 18.9	20	10	8 2	18 46.4
13	10½	2 59	22 20.3	17	11	8 25	18 8.7
17	12	3 13	18 15.8	20	10½	8 30	18 45.4
17	12	3 17	18 19.9	20	10	8 33	18 34.3
13	11	3 18	22 22.9	20	10½	8 42	18 39.3*
17	10½	3 19	18 26.3	20	8½	8 50	18 48.8
17	12	3 25	18 17.0	13	12	8 58	22 26.4
20	12	3 34	18 35.4	13	11	9 19	22 28.0†
20	12	3 36	18 35.3	17	11	9 22	18 10.7
13	9½	3 41	22 18.7	17	11	9 38	18 10.4
17	11½	3 46	18 23.0	20	9	10 28	18 37.1
17, 20	10	4 21	18 28.1	20	10	10 30	18 46.6
13	12	4 4 36	+22 11.2	17	12	4 10 34	+18 25.1

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
17	12	<sup>h. m. s.</sup> 4 10 36	+18° 14.8	20	10	<sup>h. m. s.</sup> 4 15 27	+18° 35.0
20	12	10 40	18 38.6	17	11	15 45	18 10.8
13	12	10 55	22 21.9*	13	12½	15 59	22 26.4
13	11½	11 9	22 28.5	17	10½	16 5	18 14.8
13	11	11 19	22 22.1	17	10½	16 13	18 13.0
13	11½	11 20	22 27.2	13	11	16 20	22 26.0
17	10½	11 24	18 19.0	13	12	16 26	22 27.2
20	11	11 45	18 48.3	17	9	16 57	18 16.3:
20	11½	11 50	18 47.7	17	11½	17 0	18 11.6†
17	11	11 52	18 26.2	17	11	17 50	18 10.7
20	10½	12 0	18 41.7	17	11	18 5	18 10.7
17	10	12 9	18 13.1	17	12	18 38	18 6.4
13	9½	12 18	22 25.3	17	12	18 42	18 7.9
17	10	12 18	18 22.2	13	12	18 46	22 21.3
17	12½	12 44	18 23.2	13	12	18 47	22 14.4
17	10½	12 51	18 24.1	17	12	19 2	18 9.3
20	11	13 2	18 39.4	13	11½	19 8	22 17.7
20	10½	13 12	18 31.8	20	10	19 12	18 43.4
13	9½	13 23	22 18.3	17	9½	19 17	18 9.7
17	12	13 29	18 22.3†	13	10½	19 22	22 22.1
20	11½	13 31	18 46.9	13	12	19 23	22 23.8
13	11½	13 36	22 14.5	17	12	20 13	18 10.4
20	11	13 42	18 32.1	20	11½	20 25	18 31.0
13	12½	13 51	22 16.5	17	11½	20 26	18 10.5
13	10	13 53	22 28.5	13	11½	20 50	22 18.4
17	12½	13 59	18 21.7	13	10½	20 53	22 27.4
17	11½	14 2	18 13.8	17	11½	21 3	18 12.9
20	10½	14 5	18 35.7	17	11½	21 8	18 14.6
20	11	14 23	18 48.1	17	10	21 12	18 25.5:
13	11½	14 38	22 11.0	20	11½	21 25	18 34.2
20	11½	14 47	18 44.5	20	11	21 49	18 42.0
17	12½	14 57	18 12.1	17	11	22 17	18 15.8
17	11	15 14	18 11.4	20	10	22 21	18 47.5
13	12	15 21	22 27.7	20	11½	22 22	18 48.3
17	11	4 15 26	+18 10.1	13	10	4 22 33	+22 10.9

\* p. of double.

† N. p. of double.

‡ L. of double.

L



Days Obs.	Mag.	$\alpha$ .			$\delta$ .	Days Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
13	12	4 22 35			+22 19.1	20	11	4 27 57			+18 36.4
17	11½	22 35			18 15.7	20	12	28 1			18 32.8
13	10½	22 36			22 14.9	13	10½	28 18			22 16.5
13	12	22 37			22 18.0	13	12	28 40			22 17.5
17	11	22 54			18 11.3	13	9½	29 8			22 19.1
17	12	23 17			18 19.9*	13	11½	29 23			22 11.3
20	9½	23 21			18 32.1	20	10	29 32			18 39.2
20	10½	23 39			18 34.4	13	10½	29 36			22 12.7
17	11½	23 48			18 22.4	20	9	29 41			18 42.0
17	12½	23 49			18 24.5	20	8	29 47			18 46.4
20	9	24 5			18 36.7	17	12½	29 48			18 21.2
17	11½	24 10			18 25.5	13	11	30 2			22 22.2
20	11	24 26			18 38.6	17	12	30 7			18 22.3
13	12	24 37			22 12.0	13	10	30 8			22 24.6
13	12	24 39			22 11.8	13	11½	30 8			22 26.6
20	11	24 40			18 39.2	17	12	30 15			18 22.4
20	10	24 48			18 38.9	17	11	30 26			18 19.8
17	10	25 28			18 24.0	20	9½	31 5			18 49.4
13	9½	25 35			22 23.5	20	9	31 23			18 47.6
17	12	25 36			18 14.1	13	11	31 34			22 31.6
17	12	25 48			18 15.6	13	11	31 35			22 13.6
17	10	26 0			18 15.1	17	11½	31 44			18 28.0
17	12	26 12			18 16.8	20	9	31 54			18 47.6
20	9½	26 14			18 31.6	17	12	31 57			18 25.3
17		26 31			18 25.2	17	11	32 2			18 19.7
20	12	26 33			18 32.4	17	9½	32 39			18 24.0
13	11½	26 57			22 19.3	13	12	32 50			22 24.2
20	11½	26 57			18 32.8	13	12	32 53			22 19.4
20	12	27 6			18 31.7	17	9½	32 58			18 15.6
17	10	27 9			18 13.2	13	12	32 59			22 18.6
20	12	27 9			18 33.1	20	12	33 11			18 42.9
13	12	27 19			22 28.5	13	11	33 45			22 18.8
13	12	27 27			22 21.6	13		33 52			22 19.2
20	12	27 51			18 34.7	17	11	33 53			18 27.0
17	9½	4 27 54			+18 26.7	20	10½	4 33 58			+18 36.3

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.				h. m. s.	
20	9 $\frac{1}{2}$	4 34 4	+18° 42.8	13	12	4 37 59	+22° 28.8
20	11	34 12	18 47.2	17	9 $\frac{1}{2}$	40 18	18 22.4
13	11 $\frac{1}{2}$	34 16	22 32.4	13	11	40 24	22 13.3
17	11	34 16	18 25.6	13	11	40 32	22 11.5
17	11	34 35	18 27.6	13	12	40 57	22 11.0
20	11	34 42	18 42.9	13	11	41 1	22 14.0
20	11	34 49	18 43.6	20	12	41 16	18 33.6
17	11 $\frac{1}{2}$	35 0	18 25.1	13	11 $\frac{1}{2}$	41 17	22 12.4
13	11 $\frac{1}{2}$	35 37	22 23.0	17	12	41 26	18 12.3†
20	9	35 46	18 41.5	17	12	41 28	18 13.2
20	10	35 46	18 46.2	20	11 $\frac{1}{2}$	41 33	18 34.1
20	10	35 48	18 46.7	20	9	41 34	18 34.9
17	12 $\frac{1}{2}$	36 9	18 23.4	17	12	41 51	18 14.7
13	10	36 12	22 25.7	17	12	42 5	18 9.7
13	10	36 20	22 24.3	13	11 $\frac{1}{2}$	42 17	22 13.6
20	9 $\frac{1}{2}$	36 27	18 44.3	20	9 $\frac{1}{2}$	42 26	18 36.3
17	11 $\frac{1}{2}$	36 37	18 21.8	13	11 $\frac{1}{2}$	42 28	22 17.1
17	11 $\frac{1}{2}$	36 40	18 22.7	17	10 $\frac{1}{2}$	42 31	18 27.8
13	11	36 47	22 15.7	13	11 $\frac{1}{2}$	42 48	22 25.9
20	9 $\frac{1}{2}$	36 47	18 44.7	17	12	42 58	18 26.5
13	10 $\frac{1}{2}$	37 7	22 27.1	20	12 $\frac{1}{2}$	43 7	18 43.9
20	9 $\frac{1}{2}$	37 20	18 45.7	17	11 $\frac{1}{2}$	43 10	18 23.1
13	12	37 38	22 26.9	20	9 $\frac{1}{2}$	43 36	18 44.3†
17	10 $\frac{1}{2}$	38 13	18 25.5	20	12	43 40	18 44.5
13	10 $\frac{1}{2}$	38 19	22 27.2	13	10	43 46	22 24.4
13	10 $\frac{1}{2}$	38 46	22 24.8	13	12	43 47	22 23.6
13	10 $\frac{1}{2}$	39 2	22 26.0	13	12	43 49	22 25.0
13	11 $\frac{1}{2}$	39 3	22 27.5	17	11 $\frac{1}{2}$	43 51	18 14.5
13	11	39 15	22 23.1	20	11	44 3	18 45.9
17	10	39 28	18 11.8	20	12	44 29	18 37.5
17	10	39 35	18 17.6*	17	10 $\frac{1}{2}$	44 39	18 22.1
20	11 $\frac{1}{2}$	39 40	18 38.5	17	11 $\frac{1}{2}$	44 46	18 29.4
17	10 $\frac{1}{2}$	39 46	18 18.1*	20	12	44 46	18 34.8
20	12	39 51	18 32.0	13	11 $\frac{1}{2}$	45 14	22 16.4
20	9 $\frac{1}{2}$	4 39 57	+18 42.2*	13	11	4 45 14	+22 15.3

\* (4).

† N. of double.

‡ Mag. doubtful.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>°</sup>			<sup>h. m. s.</sup>	<sup>°</sup>
20	8	4 45 38	+18 32.4	17	11½	4 50 57	+18 22.9
20	8	45 47	18 31.1	13	10½	51 21	22 22.0
20	10	46 8	18 29.2	17	12	51 23	18 26.2½
17	9½	46 18	18 24.5	17	11½	51 39	18 24.7
17	9	46 25	18 11.6	20	11	51 59	18 39.4
13	11	46 31	22 17.9	13	11	52 2	22 23.0
20	11	46 36	18 35.1	13	11	52 17	22 29.8
17	10½	47 1	18 21.0	17	12	52 48	18 22.3
17	10½	47 21	18 10.3	17	11	52 51	18 22.8
13	10½	47 28	22 11.0	13	10½	52 53	22 13.1
13	10½	47 30	22 21.0	20	12	52 59	18 39.2
13	11½	47 47	22 17.0	20	9½	53 0	18 33.1
13	11½	47 47	22 16.5	20	12	53 7	18 39.3
20	12	47 47	18 36.8	17	11½	53 21	18 23.9
17	11	47 53	18 11.3	17	11½	53 24	18 25.3
17	10	48 7	18 10.7	20	10½	53 27	18 41.6
17	10½	48 9	18 10.8	17	11½	54 13	18 10.4
13	19	48 30	22 25.7*	17	12½	54 38	18 15.3
13	10½	48 37	22 27.6	17	9	54 59	18 30.2
17	11½	48 41	18 9.5	20	11	54 59	18 43.2
17	11	48 42	18 10.2	20	11	55 23	18 46.1
20	8½	49 6	18 42.8	20	10½	55 40	18 46.8§
17	12	49 9	18 27.4	17	12	55 48	18 25.4
20	8	49 19	18 49.2	17	12½	55 52	18 26.5
13	12	49 21	22 12.5	17	12	56 6	18 21.7
13	11½	49 22	22 13.3	20	11	56 35	18 35.2
13	11½	49 25	22 12.4	20	11½	56 51	18 44.5
17	10	49 33	18 28.6	17	12½	56 54	18 13.7
20	9	49 34	18 45.5	17	12	56 56	18 8.0
17	9	49 56	18 24.4	20	12	56 57	18 42.9
13	9	50 12	22 30.8	17	11½	57 45	18 16.7
20	11½	50 13	18 35.3†	20	11½	57 53	18 32.5
17	9½	50 17	18 25.2	20	11	58 8	18 48.2
20	9½	50 28	18 43.2	20	12	58 25	18 48.4
20	9	4 50 56	+18 34.7	20	11	4 58 52	+18 31.4

\* N. of double.

† S. of double.

‡ S. p. of double.

§ L. of triple.

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		<i>h. m. s.</i>					<i>h. m. s.</i>		
20	II	4 59 8		+18 35.3	20	12	5 8 20		+21 34.2
20	11½	59 19		18 31.7	20	12	8 36		21 34.6
17	12½	59 24		18 14.1	20	10	10 14		21 35.7
17	12	59 31		18 11.0	20	11½	14 33		21 30.9
17	12½	59 35		18 13.6	20	9½	15 59		21 36.6
17	12½	59 39		18 16.3	20	12	16 27		21 41.3
20	10	4 59 59		18 46.7	20	9	16 31		21 46.6
20	12	5 0 22		18 44.3	20	11	18 41		21 33.0
20	10	0 36		18 45.0	20	9½	19 47		21 44.4
20	11	0 41		18 45.8	20	11	19 53		21 45.4
17	11½	0 42		18 11.6	20	10	21 50		21 28.2
17	12	0 49		18 12.8	20	10	22 3		21 30.1
17	10	1 3		18 14.4	20	11	22 47		21 31.0
17	11½	1 41		18 24.2	20	10	24 34		21 35.2
17	11½	1 46		18 24.9	20	11	25 15		21 45.6
20	11	2 0		18 48.4	20	11½	26 19		21 31.9
17	9½	2 1		18 23.7	20	11½	26 32		21 33.7
20	10	2 10		18 35.1	20	12	27 29		21 31.9
20	11½	2 12		18 39.3	20	11	27 29		21 29.3
20	9½	2 36		18 35.7	20	11	27 39		21 31.9
20	9	2 42		18 34.8	20	9½	28 25		21 40.2
17	11½	2 43		18 14.1	20	11	29 4		21 34.7
17	11½	2 53		18 12.8	20	10	31 26		21 38.6
17	11½	3 2		18 13.3	20	11	32 27		21 35.9
20	11	3 13		21 28.7	16	10½	32 53		19 27.5
20	11	3 19		21 31.3	16	10½	32 54		19 27.8
20	11	3 25		18 42.9	16	10½	33 25		19 11.7
20	11	3 40		21 31.6	16	11½	34 1		19 28.6
20	11	3 45		21 35.9	20	12	34 3		21 33.1
20	9	4 3		18 42.2	16	11	34 19		19 26.1
20	10½	5 6		21 45.9	16	9	34 41		19 28.0
20	12	5 24		21 45.1	20	10	35 0		21 44.0
20	9½	5 44		21 45.6	20	11	35 7		21 44.9
20	11½	6 43		21 39.2	20	12	35 11		21 43.5
20	10	5 6 54		+21 38.9	20	12	5 35 15		+21 42.3

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
16	11	5 35 28	+19 23 8	16	11	5 42 27	+19 14.5
16	10½	35 45	19 27.5	16	11	42 31	19 13.9
16	10	36 0	19 22.5*	20	10	42 39	21 29.6
20	11	36 4	21 46.9	16	11	43 20	19 13.2
20	9	36 9	21 43.2	16	12	44 24	19 14.1
20	10	36 40	21 44.2	16	11	44 29	19 23.5
16	10½	37 17	19 16.4	20	10½	44 37	21 31.7
16	9½	37 24	19 17.6	20	11	44 40	21 29.1
16	10½	37 41	19 13.0	16	10½	44 42	19 16.7
16	11½	37 59	19 15.0	16	12½	44 49	19 17.7†
20	8½	38 1	21 36.7†	20	11	45 26	21 46.5
20	11½	38 29	21 39.5	20	10½	45 28	21 30.6
20	11	38 45	21 32.9	20	11	46 37	21 42.5
16	11	38 46	19 29.6‡	20	11½	46 42	21 43.6
16	11½	39 18	19 18.8†	16	12	47 37	19 14.5
16	10½	39 23	19 13.5	16	12	47 46	19 15.3
16	11	39 30	19 21.1§	20	11	48 33	21 30.4
16	10½	39 51	19 15.5	20	11	48 46	21 30.8
20	9½	39 55	21 41.0	16	10½	48 48	19 13.2
20	9	40 17	21 35.5	20	11	49 38	21 31.2
20	9	40 24	21 33.7	20	9	49 49	21 38.6†
16	10	40 26	19 20.8	20	10½	51 4	21 29.0
20	8	40 38	21 46.6	20	12	52 25	21 33.4
16	11	40 43	19 29.2	20	12	52 25	21 32.5
20	11½	41 20	21 29.7	20	11½	52 44	21 32.4
20	11½	41 47	21 31.2	20	10½	52 46	21 34.2
16	11	41 53	19 17.2	20	9½	53 40	21 29.7
16	12½	41 58	19 15.5	20	10	54 12	21 44.9
16	10	41 59	19 11.8	20	10½	54 26	21 43.6
20	11	5 42 1	+21 30.1	20	10	5 54 56	+21 30.3

\* L. of double.

‡ S. f. of double.

† (4).

‡ S. p. of double.

! N. p. of double.

\*

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

985 STARS NEAR THE ECLIPTIC,

OBSERVED IN FEBRUARY, 1852, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.						h. m. s.			
10	11½	4 56 4			+25 34 1	10	12	5 9 2			+25 33.3
10	10½	56 7			25 48.2	10	10	10 6			25 37.6
10	11½	56 52			25 46.1	10	11½	10 8			25 35.8
10	10½	57 3			25 35.5	10	11½	10 13			25 34.0
10	10	57 5			25 49.5	10	11	10 28			25 43.2
10	12	57 47			25 48.8	10	12	12 11			25 44.9
10	10	57 35			25 49.5	10	12½	12 42			25 36.4
10	12	57 56			25 48.0	10	12	13 19			25 47.7
10	11	58 34			25 28.4*	10	11	14 7			25 35.9
10	11	59 15			25 33.7	10	10½	15 11			25 48.4
10	9	59 19			25 44.1	10	11½	15 36			25 46.4
10	11½	59 26			25 35.6	13	11½	15 55			19 32.3¶
10	12	4 59 34			25 35.2	13	11	15 55			19 31.2
10	10	5 40 28			25 34.0†	13	11	15 56			19 43.3
10	10	0 30			25 36.8‡	13	10½	16 7			19 39.1
10	10½	1 35			25 46.7	13	10½	16 10			19 33.8
10	9	1 45			25 46.2	10	12½	16 50			25 37.1
10	11½	1 48			25 45.2	13	11½	17 27			19 47.3
10	9½	2 54			25 34.8	13	9½	17 28			19 49.6‡
10	10	3 5			25 41.2§	13	9½	17 38			19 39.5§
10	10	3 11			25 32.7	13	10	17 48			19 47.0
10	10	4 25			25 28.9	10	12	18 2			25 39.3
10	12	4 40			25 37.9	10	11	18 11			25 48.5
10	11	5 7			25 32.1	13	11½	18 55			19 33.2
10	11½	6 1			25 30.9	13	11½	19 9			19 41.4
10	12	6 34			25 47.5	10	12	19 10			25 31.3
10	10½	7 16			25 39.4	13	11½	19 10			19 33.4
10	10½	7 33			25 35.4	13	11½	19 11			19 35.1
10	12	8 50			25 36.8	13	11½	19 14			19 33.3
10	12	5 8 52			+25 34.3	10	10½	5 19 28			+25 45.4

\* L. of double.

† S. f. of double.

‡ N. p. of double.

§ (4).

¶ p. of double.

¶ Double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	+°			h. m. s.	+°
10	12	5 19 43	+25 41.2	13	11	5 30 51	+19 38.8
13	9½	20 4	19 31.2	13	11	30 53	19 38.2
13	9½	20 54	19 38.7	10	11½	30 58	25 43.4
13	12	21 2	19 34.9	10	12	31 14	25 46.8
13	10½	21 13	19 49.2	10	10	31 36	25 47.2
10	12	21 16	25 46.6	10	10½	31 47	25 44.6
13	10	21 38	19 44.3	13	10	32 9	19 48.7
10	11½	21 48	25 43.9	13	11½	32 15	19 43.9
13	11½	22 7	19 36.1*	13	10½	32 45	19 42.0
13	11	22 7	19 34.2	13	9	32 56	19 43.6
13	11½	22 12	19 35.3	10	10½	32 59	25 42.2
10	11½	22 37	25 44.5	10	12*	33 6	25 36.1
10	10	22 46	25 45.1	10	11	33 33	25 38.8
13	12	22 55	19 38.4	13	10	33 44	19 44.3
13	10	23 19	19 37.7	13	9	33 57	19 46.2
10	12	23 55	25 45.8	13	11	34 21	19 44.1
10	10	24 42	25 41.5	13	10½	34 28	19 46.2
10	10	24 44	25 30.9	13	9½	35 16	19 47.3
13	11	24 44	19 33.1	13	12	35 31	19 36.2
13	11	25 30	19 39.5	13	11	35 39	19 37.2
13	10½	26 9	19 31.9	13	10½	35 51	19 41.6
13	11	26 30	19 34.0	13	11	35 59	19 41.9
10	9½	26 39	25 35.7	10	10	36 16	25 39.7
13	10½	27 24	19 44.2	13	11	37 18	19 47.1
10	12	28 0	25 36.8	13	10	37 28	19 39.4
13	10	28 16	19 49.3	13	11	37 59	19 36.0
13	11	28 21	19 44.5	13	8½	38 51	19 32.5
10	10	28 27	25 42.8	13	8½	38 54	19 37.5
10	9	28 39	25 30.8	13	11	39 31	19 31.5
10	11	28 46	25 39.4	13	9	40 16	19 45.6
13	9½	29 8	19 34.6	10	10½	40 19	25 39.1
10	11	29 32	25 46.7	10	10½	40 45	25 47.4
10	11	29 45	25 51.8	13	10½	40 52	19 38.6
13	10½	30 22	19 41.9	13	11	41 5	19 34.6
13	11	5 30 38	+19 33.4	13	11	5 41 6	+19 38.2

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
13	10	<sup>h. m. s.</sup> 5 41 8	<sup>°</sup> +19 31.7	10	11½	<sup>h. m. s.</sup> 5 49 18	<sup>°</sup> +25 36.2
10	11	41 17	25 43.6	13	11	49 59	19 33.4
10	12	41 31	25 48.7	10	11½	50 18	25 32.1
13	9	41 45	19 38.6	13	9	50 18	19 31.3
10	11½	41 54	25 46.2	10	11½	50 59	25 47.3
13	9	42 9	19 49.3	10	11½	50 59	25 48.0
13	10½	42 41	19 46.1	10	11½	51 8	25 47.7
13	10	42 49	19 33.7	10	11	51 53	25 35.0
10	9	43 19	25 42.0	10	10½	51 57	25 37.2
10	10	43 42	25 41.5	13	8	52 2	19 48.2
10	9½	43 42	25 43.5	10	10½	52 28	25 35.4
13	11	43 50	19 31.1	13	11	52 28	19 45.8†
10	10	43 51	25 45.3*	10	10½	52 33	25 37.3
13	11	44 20	19 31.8	13	11	52 58	19 42.9
13	10	44 34	19 31.0	13	11½	53 6	19 44.4
13	9	44 43	19 35.1	10	10	53 27	25 45.4
10	10½	45 33	25 47.5	10	9½	53 52	25 42.1
13	11	45 44	19 41.1	10	10	54 6	25 42.8
10	12	46 3	25 46.8	13	10½	54 40	19 47.4
13	8	46 7	19 34.2	13	10	54 43	19 44.5
10	10½	46 14	25 48.3	13	10½	55 1	19 45.7
10	9	46 16	25 46.3:	10	10½	55 5	25 47.2
10	9½	46 40	25 31.8	10	10½	55 38	25 38.5
13	10½	46 43	19 42.8	13	10½	56 4	19 32.6
10	10	47 37	25 42.6	13	11½	56 7	19 32.6
10	12	47 38	25 43.0	10	11	56 8	25 35.3
13	9½	47 44	19 42.8	13	10	56 50	19 47.6
13	10	47 56	19 42.7	10	11	56 50	25 30.9
10	11½	48 7	25 44.3	10	11	56 53	25 33.1
13	10	48 7	19 34.7	13	11	57 4	19 43.2
10	9½	48 8	25 43.5	13	9	57 9	19 48.8
13	10	48 13	19 37.3	10	9	57 31	25 33.7
10	11	48 14	25 33.4	10	10	57 39	25 49.1§
13	9½	48 28	19 38.3†	10	11	57 46	25 46.6
10	12	5 49 5	+25 33.4	13	9½	5 58 0	+19 43.4

L. of double.

† (4).

‡ L. of group.

§ N. of double



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
13	9	5 58 4	+19 38.3	13	11	6 6 13	+19 43.1
13	9	58 48	19 42.8	10	11½	6 23	25 34.8
13	10½	59 15	19 49.1	13	9	6 37	19 33.8
10	12	59 25	25 35.1	10	11½	6 42	25 35.7
10	10½	5 59 27	25 35.2	10	11	7 19	25 46.6
10	10	6 0 15	25 41.8	13	8½	7 25	19 38.7*
13	10	0 19	19 33.3	13	11	7 40	19 45.7
13	8½	0 20	19 46.6	13	9	8 7	19 38.3
13	10	0 27	19 32.6	13	9	8 10	19 45.8
13	10½	0 37	19 32.4	10	11½	8 16	25 46.8
10	11	0 45	25 33.2	10	12	8 40	25 46.6
10	10	0 57	25 34.1	10	11*	8 52	25 45.2
13	9½	1 15	19 32.1	24	11	9 32	19 51.5
13	10	1 30	19 33.4	24	10	9 35	19 54.3
13	10	1 36	19 33.5	13	11	9 44	19 38.9
10	10	1 38	25 37.3	13	10½	9 47	19 33.7
10	9½	1 50	25 36.0	13	12	9 48	19 37.6
10	9½	1 57	25 31.5	24	10	10 4	19 57.5†
10	9	2 9	25 34.7	24	10½	10 35	20 5.4
13	9	2 36	19 43.4	10	10	10 41	25 38.4
13	11½	2 39	19 49.0	13	10½	10 51	19 49.3
13	11½	2 51	19 48.5	24	11	10 51	20 4.2
10	9	3 26	25 43.6	13	11	10 54	19 48.1
10	11½	3 26	25 46.3	13	10½	11 1	19 48.2
10	10	3 35	25 39.9	10	11	11 4	25 39.3*
13	10½	3 36	19 31.3	24	10	11 28	20 8.3
13	12	3 42	19 34.0	13	10½	12 4	19 35.4
13	10½	3 52	19 34.4	24	11	12 14	20 8.4
10	9½	4 11	25 42.9	13	12	12 16	19 35.4
13	9	4 27	19 46.6	24	11	12 18	20 6.0
13	10	4 58	19 34.8	13	10	12 24	19 34.3†
13	8½	5 13	19 39.5*	10	11½	12 30	25 45.9
13	9½	5 31	19 38.1	10	10½	12 51	25 45.4
10	11	6 1	25 36.7	10	11	13 24	25 38.3
10	11	6 6 11	+25 36.0	10	11	6 13 29	+25 39.4

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>° ' "</sup>			<sup>h. m. s.</sup>	<sup>° ' "</sup>
13	12	6 13 41	+19 35.1	24	9½	6 19 23	+20 8.7
13	11	13 46	19 32.4	10	12	19 47	25 45.9
24	8½	13 53	20 5.0	13	11	19 51	19 34.7
24	9½	14 8	20 4.4	13	11	19 54	19 35.9
24	9	14 21	20 4.0	10	11½	19 55	25 45.0
24	10	14 25	20 5.0	13	9½	20 2	19 34.6
10	9½	14 48	25 47.3	10	9	20 9	25 48.5
13	11	15 11	19 42.1	24	9	20 24	19 58.1
13	11½	15 13	19 43.7	13	11½	20 40	19 31.1
13	10	15 15	19 45.2	24	9	20 42	19 59.6
13	10	15 16	19 46.5	24	9½	21 10	20 2.5
10	10	15 33	25 34.7	10	10	21 12	25 49.7
24	10	15 33	19 58.5	13	10½	21 19	19 37.1
10	10½	15 35	25 33.8	13	9	21 34	19 42.4
13	9½	15 50	19 46.4	13	9	21 35	19 48.4
24	9½	15 56	19 59.4*	24	9	21 42	20 9.2
24	9	16 9	19 55.2†	24	9	21 52	20 6.9
13	10	16 11	19 34.6	24	10	21 53	20 3.9
10	10	16 32	25 37.0	13	8½	21 55	19 36.9
13	10	16 32	19 33.8	24	9	22 11	20 9.1
13	8	16 46	19 31.2	10	10	22 15	25 43.6‡
10	9½	16 50	25 39.4	24	9	22 31	20 5.7
13	9½	17 22	19 35.3	10	10	22 32	25 42.7
10	11	17 24	25 43.6	10	10½	22 38	25 34.8
24	10½	17 51	19 54.0	13	11	23 4	19 42.5
13	9½	18 1	19 44.6	24	10	23 10	19 58.7
10	10½	18 8	25 47.5	13	10	23 18	19 41.4
13	10½	18 25	19 42.1	13	11	23 30	19 47.2
10	11	18 27	25 49.3	10	10	23 52	25 37.4
13	9	18 33	19 32.5	10	11	23 56	25 35.7
13	10	18 49	19 33.7	10	11	24 15	25 35.3
24	11	18 50	20 2.5	24	10	24 16	20 5.9
24	10	18 56	20 9.8	13	11½	24 29	19 32.2
24	9	19 5	20 5.1	13	11½	24 32	19 34.1
24	9½	6 19 10	+19 58.2	13	10½	6 24 35	+19 32.1

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
13	10	<sup>h. m. s.</sup> 6 24 56	+19 30.9	13	10	<sup>h. m. s.</sup> 6 31 14	+19 42.9
10	9	25 9	25 47.0	24	9	31 14	20 7.7
24	9½	25 11	20 4.0	13	11	31 20	19 45.5
24	11	25 12	19 56.3	24	9	31 24	20 4.6
13	11	25 36	19 31.6	13	10	31 54	19 38.7
24	11	25 37	20 4.5	10	10½	32 45	25 36.4
13	12	25 38	19 35.0	13	11½	32 46	19 39.0
24	10	25 43	20 5.1	13	11½	32 54	19 39.8
24	9	26 2	19 54.3	24	9½	33 2	19 52.7
24	9	26 30	20 4.0	10	11	33 16	25 37.1
13	11½	26 31	19 45.0	24	10	33 19	19 52.5
13	9	26 46	19 37.3	13	11*	33 35	19 43.9
13	9½	26 55	19 35.3	24	11	33 48	20 9.0
13	9	27 3	19 35.3	10	11½	33 50	25 33.5
24	10½	27 8	20 3.2	24	8	34 7	20 6.6
24	11	27 13	20 5.8	24	11	34 19	19 51.9
24	8½	27 26	20 5.2	24	11	34 30	19 52.9
24	9	27 42	19 56.7	13 24	9	34 50	19 52.4
13	9	27 50	19 49.3	13	10	35 1	19 31.9
10	10	28 16	25 36.7	24	9½	35 25	20 4.5
10	10½	28 34	25 48.7	13	10	35 28	19 31.5
13	10½	28 46	19 47.2	13	9½	35 31	19 48.2
10	11	28 50	25 39.8	24	8	35 46	20 7.9
24	8½	28 51	20 4.1	13	11½	36 2	19 49.7
13	10½	28 52	19 46.3	13	11	36 27	19 32.1
13	10½	28 53	19 43.1	24	9½	36 53	19 56.1
13	8	29 3	19 33.3	13	11	36 59	19 38.3
24	8	29 14	20 0.0*	24	8½	37 6	19 53.8
13	10	29 58	19 45.0	24	10	37 27	19 53.9
13	9½	29 58	19 31.0	13	9½	37 32	19 47.5
24	10½	30 1	20 4.4†	13	9½	37 35	19 48.3
24	10½	30 5	20 4.4	13	11	37 39	19 43.1
10	11½	30 59	25 42.5	13	11	37 41	19 43.4
24	9	31 2	20 0.0	24	10½	38 0	19 52.8
10	11½	6 31 12	+25 42.2	24	11	6 38 12	+19 53.0

Days. Obs.	Mag.	$\alpha$	$\delta$	Days. Obs.	Mag.	$\alpha$	$\delta$
		<sup>h. m. s.</sup>	<sup>° ' "</sup>			<sup>h. m. s.</sup>	<sup>° ' "</sup>
24	9½	6 38 21	+20 3.3	25	11	6 43 0	+19 27.9
13	11	38 53	19 44.4	25	11½	43 6	19 24.4
13	11½	39 0	19 44.1	13	9	43 9	19 31.4
13	11½	39 5	19 44.3	13	11	43 11	19 33.6
25	9	39 6	19 20.1	25	10½	43 24	19 13.0
13	10	39 16	19 36.6	13	11½	44 10	19 37.0
25	10½	39 21	19 20.1	13	11½	44 13	19 35.3
25	11	39 42	19 21.8	24	10½	44 21	20 9.9
24	11½	39 52	20 2.6	25	11½	44 28	19 28.9
24	11	39 54	19 55.9	25	12	44 32	19 26.4
25	9½	39 54	19 23.5	24	11	44 35	20 5.2
24	11½	39 35	19 55.2	13	11	44 43	19 39.0
24	10	40 1	19 52.8	13	10½	44 57	19 39.1†
13	11	40 4	19 38.5	24	9½	44 59	20 0.1
13	11	40 5	19 39.1	24	9½	45 22	20 4.3
13	9	40 10	19 32.7	13	9½	45 28	19 45.0::
24	10	40 23	20 6.6	25	11	45 29	19 16.6
24	9½	40 30	19 51.6	24	9	45 56	20 1.5
13	9	40 39	19 32.5	25	12	46 13	19 24.3
24	9	40 47	19 52.4	25	12	46 15	19 26.0
24	9½	41 10	19 55.1	24	9	46 36	19 52.9
25	11½	41 20	19 14.9	25	9½	46 36	19 27.8
25	11½	41 23	19 15.9	25	9½	46 39	19 28.7
24	10	41 28	19 55.7*	24	9	47 2	19 57.0
25	10½	41 34	19 27.0	13	10½	47 5	19 48.1
24	7½	41 39	20 8.0	13	10½	47 8	19 47.9
13	8	41 47	19 46.2	24	10½	47 14	19 53.7
13	10	41 49	19 42.8*	13	9	47 16	19 41.5
13	10½	42 10	19 38.1	24	8½	47 34	20 7.0
25	12	42 14	19 29.6	24	9	47 39	19 51.4
13	11	42 20	19 45.8	25	10½	47 41	19 27.6
24	11	42 38	20 7.2	25	11	48 4	19 18.2
25	11½	42 40	19 28.8	25	10½	48 33	19 18.1
24	9½	42 43	20 8.9	25	11½	48 36	19 18.0
24	9	6 42 50	+20 7.2	13	12	6 48 38	+19 43.3

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup>			<sup>h.</sup> <sup>m.</sup> <sup>s.</sup>			<sup>°</sup>
25	II	6 48 41			+19 18.2	25	9	6 53 39			+19 28.0
13	10½	48 44			19 44.7	25	9	53 40			19 30.5
13	9	48 49			19 46.6	13	11½	54 25			19 37.5
24	9	49 4			19 52.8	13	9	54 28			19 32.4
25	10½	49 25			19 18.0	24	8	54 33			20 8.9
25	11½	49 30			19 29.7*	13	10	54 34			19 36.1
24	10½	49 58			19 51.5	24	9½	54 41			20 10.5
13	9½	50 15			19 37.6	24	9	54 46			20 8.3†
13	II	50 16			19 39.6	25	11½	54 48			19 26.4
25	11½	50 22			19 26.4	13	II	55 19			19 32.4
25	II	50 24			19 27.6	25	10	55 34			19 15.0
13	II	50 28			19 37.3	13	10½	55 36			19 34.4
13	9	50 31			19 48.3	13	10½	55 38			19 38.9
13	II	50 35			19 38.3	25	II	55 43			19 13.0
13	9	50 41			19 42.3	24	10½	55 45			20 1.7
24	9	50 44			19 52.7	24	II	55 47			19 54.0
24	II	50 50			20 6.3	25	II	55 48			19 12.6
24	10	50 52			20 8.3	13	II	56 11			19 44.2
13	10	50 54			19 41.8	13	10	56 24			19 44.6
25	12½	50 57			19 11.7	24	10	56 27			20 4.6
24	10½	51 12			20 4.7	25	12	56 38			19 26.9
25	10	51 32			19 30.2	25	12	56 57			19 25.0
25	10½	51 33			19 27.9	13	10	57 11			19 50.9
24	8½	51 41			20 9.9	13	II	57 18			19 50.9
25	II	52 4			19 11.4	13	10½	57 34			19 50.9
13	II	52 14			19 45.3	24	9	57 36			19 55.3
13 24	8	52 17			19 49.2	13 24	9	57 45			19 52.6
24	10	52 17			19 51.3	13	10	57 51			19 52.5
13	9½	52 23			19 44.3	25	10	58 16			19 15.5
13	9½	52 33			19 43.0	13	9½	58 17			19 40.6
25	II	52 41			19 27.5	13	10½	58 24			19 40.6
13	9	53 1			19 38.0	13	12	58 29			19 32.3
24	9½	53 10			20 4.3	24	9	58 32			19 54.4
24	9	53 22			20 12.5	25	10	58 34			19 16.1
24	10	6 53 35			+20 2.4	24	9	6 58 40			+19 51.4

• Double.

† L. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
24	10½	6 58 56	+19 51.2	24	10	7 4 54	+20 4.2
24	10½	59 23	19 53.1	13	10	4 58	19 47.2
25	11	59 27	19 27.7	24	9	5 10	20 2.9
25	10	59 38	19 28.0	25	12	5 17	19 14.8
13	12	59 48	19 34.2	24	7½	5 49	20 6.8
13	12	59 51	19 32.0	25	10	6 8	19 28.8
24	9½	6 59 59	19 53.4	24	9½	6 12	20 4.8
25	11	7 0 0	19 17.4	13	9	6 48	19 50.4
13	8	0 5	19 33.6	25	10	7 27	19 19.3
24	10	0 14	19 59.5*	24	10½	7 40	19 52.0
25	8½	0 14	19 18.2	24	10½	7 44	19 52.8
25	11½	0 36	19 15.4	24	11	7 49	19 54.0
24	8½	1 3	19 57.3	25	11	8 9	19 27.5
13	9½	1 4	19 37.2	25	10½	8 16	19 22.7
13	9	1 23	19 32.5	13	9½	8 20	19 29.7
24	11	1 36	19 56.7	24	10½	8 34	20 7.6
24	7	1 43	20 2.6	24	11	8 44	20 5.8
24	9½	1 44	19 52.4	25	10½	9 12	19 15.8
24	10	1 57	19 57.1	25	9	9 37	19 17.8
13	10½	2 2	19 34.9	25	9½	9 44	19 11.5
24	10½	2 15	19 59.7	24	9½	9 56	19 54.1
25	9½	2 24	19 12.9	24	9	9 57	20 7.0†
25	9½	2 25	19 18.5	25	9½	10 16	19 18.3
24	9½	2 35	19 59.1	24	9	11 1	19 58.9
13	11	2 40	19 32.0	25	11	11 5	19 19.8
25	9½	3 9	19 23.5	25	11	11 9	19 18.0†
25	11½	3 21	19 13.9	24	11	11 18	19 59.9
25	10½	3 23	19 12.1	24	11	11 34	19 59.6
24	10	3 41	20 10.1	24	9	11 44	20 3.4
13	11½	3 44	19 48.2	25	11	11 46	19 25.6
13	10	3 48	19 49.3	24	10	11 55	19 57.9
24	10½	4 9	20 3.9	25	11	12 7	19 27.8
13. 25	10	4 12	19 32.2	25	10½	12 34	19 23.7
13	11½	4 22	19 33.7	25	11	12 38	19 25.4
24	11	7 4 29	+20 5.7	25	9	7 12 46	+19 29.2

Days. Obs.	Meg.	$\alpha$ .	$\delta$ .	Days. Obs.	Meg.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
24	10	7 13 10	+19 53.0	24	10 $\frac{1}{2}$	7 22 17	+20 3.1
24	10	13 12	19 52.1	24	11 $\frac{1}{2}$	22 17	20 4.5
24	9	13 13	20 1.3	25	10	22 27	19 17.2
25	10 $\frac{1}{2}$	13 19	19 23.2	24	11	22 57	20 2.6
25	9 $\frac{1}{2}$	13 55	19 26.7	24	9	23 5	20 5.0
24	10	13 57	20 7.8	25	12	24 0	19 22.2
24	9	14 32	20 9.2	25	12	24 7	19 27.7
25	10 $\frac{1}{2}$	14 38	19 22.8	25	11	24 12	19 22.7
24	9	14 41	20 8.9	25	12	24 28	19 22.1
24	9	15 3	20 2.3	25	10 $\frac{1}{2}$	24 40	19 17.9
25	10	15 9	19 23.2	24	11	24 42	20 2.9
25	10	15 12	19 24.0	25	11*	24 45	19 14.8
24	10	15 20	20 8.6	25	11	24 45	19 12.4
25	10	15 49	19 26.4	24	11	24 45	19 56.5
24	12	16 1	20 1.8	24	11 $\frac{1}{2}$	24 46	19 53.9
24	8	16 17	20 13.1	24	10	24 54	19 58.6
24	12	16 17	20 3.3	24	12	24 56	19 53.2
25	10	17 11	19 21.1	24	12	25 9	19 53.7
24	9	17 31	19 53.8	24	10 $\frac{1}{2}$	25 50	19 52.5
24	10 $\frac{1}{2}$	17 35	19 51.4	24	9	26 5	19 55.9
24	10	17 42	19 54.1	24	10 $\frac{1}{2}$	26 5	19 52.8
25	12 $\frac{1}{2}$	17 49	19 15.6	24	11	26 8	20 3.2
25	11.	18 4	19 12.0	25	10	26 13	19 20.2*
24	10 $\frac{1}{2}$	18 19	20 9.4	25	10	26 32	19 22.5
24	10 $\frac{1}{2}$	18 29	20 9.8	25	10	26 54	19 18 6†
24	8	18 42	20 7.8	24	11	27 38	19 53.5
24	11	19 53	19 53.1	24	10 $\frac{1}{2}$	27 45	19 53.7
24	11	20 7	19 52.6	25	9	28 21	19 24.3
25	11	20 11	19 22.7*	25	9	28 29	19 25.8
25	9 $\frac{1}{2}$	20 26	19 13.6	24	11	28 30	20 6.0
24	11 $\frac{1}{2}$	21 1	19 55.9	24	9	28 30	20 1.8
24	11	21 1	19 54.4	25	11	28 30	19 28.5
24	11	21 1	19 53.1	24	11	28 35	20 6.1
25	10	21 20	19 16.1	24	11	28 37	20 8.5
25	10	7 21 51	+19 28.2	24	11	7 28 39	+20 1.6

\* (4).

† Double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
24	11½	7 30 11	+19 56.6	24	10½	7 37 36	+19 59.8
25	10½	30 11	19 21.6*	24	9½	38 1	20 6.5
24	11½	30 13	19 57.4	25	9	38 2	19 15.8
24	11	30 24	19 57.8	25	9½	38 3	19 24.7
24	8	30 40	20 7.1	24	9	38 50	20 5.7
25	9	31 19	19 9.8	24	12	39 3	20 5.0
24	10½	31 31	19 56.6	24	10½	39 30	20 4.3
24	11	31 33	19 55.1	24	9	39 30	20 7.5
24	9	31 40	19 58.6	24	11	39 34	20 8.5
24	10½	31 41	19 55.3	24	10	40 38	20 5.5
25	9	32 0	19 13.1	25	11½	40 51	19 25.9
24	9	32 8	19 56.2	25	10½	41 9	19 23.8†
25	9½	32 28	19 19.0	25	10½	41 10	19 26.7
25	11	32 43	19 27.2	24	12	41 16	20 6.2
25	11	32 54	19 24.3	25	11½	41 23	19 25.7
25	11	33 6	19 28.3	25	10	41 51	19 15.9
24	10	33 12	20 7.9	24	11	42 8	20 7.6
24	10½	33 17	20 3.7	25	10½	42 36	19 28.3
24	9½	33 46	20 9.3	25	10	42 49	19 19.5
25	10½	33 56	19 16.1	24	10½	42 57	20 4.5
24	9½	34 25	20 8.4	24	10	43 5	19 56.8
24	9½	34 43	20 2.8	24	9	43 14	19 53.3
25	9½	34 46	19 12.4	25	11	43 17	19 16.4
24	10	34 49	20 2.2	25	11	43 23	19 20.1
24	10	35 5	20 2.9	25	11	43 25	19 16.3
24	10½	35 12	20 2.5	25	10	43 31	19 18.1
25	10½	35 29	19 16.8	24	9½	43 56	19 49.8
25	9½	35 29	19 14.7	25	10	44 26	19 21.2†
25	10	36 21	19 16.8	24	10	44 30	19 55.9
25	9	36 31	19 24.6	24	11	44 49	19 55.8
25	10	36 37	19 28.2	25	11	44 50	19 31.5
24	9½	36 43	19 54.7	24	11	45 10	19 57.6
24	10½	37 8	19 56.7	24	11	45 11	19 53.0
24	9½	37 20	19 58.9†	24	9	45 13	19 54.2
25	9½	7 37 33	+19 27.1	24	10	7 45 52	+20 8.1

• (4).

† L. of double.

‡ Mag. doubtful.

M



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>°</sup>			<sup>h. m. s.</sup>	<sup>°</sup>
25	10½	7 46 23	+19 26.4	25	10	8 0 4	+19 25.9
24	10	46 51	20 8.7	25	9½	0 7	19 26.7
25	8	47 8	19 13.8	25	9	1 22	19 20.0*
24	10	47 10	20 3.9	25	8	1 22	19 12.8
25	11	47 11	19 22.8	25	9	1 55	19 14.8
25	9	47 23	19 16.0	25	11	2 3	19 14.9
24	10½	47 29	20 3.2	25	10½	2 45	19 29.8
25	11	47 46	19 17.8	25	9	3 23	19 15.8
25	9½	48 32	19 17.2	25	9	3 29	19 23.3
24	9	48 49	20 7.5	25	9½	3 53	19 23.1*
24	8½	48 58	20 10.9	25	9½	4 1	19 29.7
24	10	49 26	19 51.9	25	9½	4 19	19 19.2
25	11	49 32	19 16.2	25	9	5 15	19 26.7:
25	11	49 46	19 13.8	25	12	5 56	19 12.6:
25	9	49 51	19 17.3	25	10½	6 34	19 13.7
25	11	49 57	19 16.1	25	9½	6 55	19 14.9
25	10½	50 46	19 28.6	25	10½	7 58	19 30.1
25	10½	50 48	19 26.7	25	11½	8 2	19 27.1
25	10	51 7	19 24.5	25	11½	8 3	19 30.7
25	11	51 25	19 13.0	25	10½	9 21	19 20.6
25	10½	52 11	19 13.7	25	10	9 21	19 16.0
25	11½	52 49	19 27.7	25	10½	9 24	19 16.5
25	11	53 5	19 26.8	25	10	9 42	19 16.3
25	9½	53 10	19 24.7	25	10	9 44	19 14.1
25	9½	53 57	19 26.5	25	8½	9 51	19 17.0
25	11	54 47	19 24.9	25	11	11 5	19 12.0
25	11	54 54	19 15.3	25	11½	11 39	19 27.4
25	10	55 9	19 17.1	25	9	11 51	19 27.7
25	12	56 27	19 17.5	25	9	12 11	19 24.0
25	8½	56 46	19 22.7	25	8	12 11	19 12.3
25	9½	57 3	19 26.9	25	10	12 25	19 20.3
25	9	57 17	19 25.0	25	11	14 8	19 24.7
25	9½	58 16	19 14.7	25	11	14 12	19 13.8
25	10	58 42	19 17.1	25	10	14 18	19 18.0
25	9	7 58 52	+19 16.7	25	10	8 14 42	+19 29.4†

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		$^h$	$^m$	$^s$	$^{\circ}$			$^h$	$^m$	$^s$	$^{\circ}$
25	9	8	15	1	+19 23.5	25	8 $\frac{1}{2}$	8	38	0	+19 18.2
25	9 $\frac{1}{2}$		15	41	19 24.8	25	10 $\frac{1}{2}$		38	2	19 15.9
25	10		16	45	19 24.1	25	11 $\frac{1}{2}$		38	41	19 12.8
25	8 $\frac{1}{2}$		17	16	19 15.7	25	9		39	29	19 13.6
25	10		19	13	19 16.2	25	10		39	45	19 18.0
25	9		19	20	19 17.3	25	10		40	18	19 23.7
25	10 $\frac{1}{2}$		19	45	19 28.6	25	11		40	38	19 28.0
25	10		20	19	19 15.4	25	11		40	50	19 22.2
25	10 $\frac{1}{2}$		20	44	19 18.0	24	11		42	16	18 39.9
25	11		21	31	19 16.6	25	9 $\frac{1}{2}$		42	54	19 20.7
25	9 $\frac{1}{2}$		21	41	19 20.3	25	10		43	1	19 17.5
25	11		23	9	19 29.8	24	11		43	21	18 48.9
25	10 $\frac{1}{2}$		26	21	19 15.8	24	11 $\frac{1}{2}$		44	23	18 49.8
25	10 $\frac{1}{2}$		26	27	19 15.7	24	10		44	36	18 43.3
25	10 $\frac{1}{2}$		26	34	19 17.8	24	10		45	9	18 43.0
25	9		27	59	19 22.3	24	11		45	51	18 38.7
25	9		28	59	19 10.4	24	9 $\frac{1}{2}$		46	40	18 42.4
25	9 $\frac{1}{2}$		29	12	19 11.8	25	10		46	45	19 27.4
25	8 $\frac{1}{2}$		29	20	19 12.9	25	11		47	21	19 27.9
25	9		30	3	19 10.3	24	11		47	24	18 45.6
25	10		30	18	19 19.3	24	11		47	28	18 47.1
25	9 $\frac{1}{2}$		31	1	19 24.2	24	10		47	44	18 42.1
25	9 $\frac{1}{2}$		31	24	19 28.1	24	9		47	49	18 42.2*
25	9 $\frac{1}{2}$		31	55	19 28.9	25	9		47	59	19 29.0
25	10		32	13	19 25.9	25	9 $\frac{1}{2}$		48	6	19 22.0
25	10 $\frac{1}{2}$		32	26	19 10.2	24	11 $\frac{1}{2}$		48	24	18 35.4
25	10		32	59	19 28.2	24	11 $\frac{1}{2}$		48	35	18 38.3
25	10		34	11	19 23.7	25	10		48	39	19 28.1
25	11		34	24	19 16.6	25	9		49	22	19 18.7
25	10		34	31	19 29.5	24	12		49	30	18 48.1
25	9		35	14	19 20.3	24	11		49	32	18 48.2
25	12		35	30	19 14.1	25	10		50	3	19 15.1
25	12		35	44	19 16.5	25	10 $\frac{1}{2}$		50	32	19 25.7
25	8 $\frac{1}{2}$		36	44	19 26.0	25	10		50	35	19 32.3
25	9	8	37	23	+19 17.9	24	10 $\frac{1}{2}$	8	50	50	+18 42.4*

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
24	12	<sup>h. m. s.</sup> 8 50 54	+18 36.8	24	9	<sup>h. m. s.</sup> 9 9 44	+18 36.7.
24	12	52 9	18 47.7	24	9½	10 26	18 33.7
24	12½	52 24	18 46.1	24	9	10 44	18 33.5
24	10	53 10	18 46.2	24	9	10 55	18 37.0
24	11	53 34	18 42.8	24	11½	11 19	18 45.4†
24	11	53 44	18 47.5	24	11	12 35	18 48.5
24	9	53 57	18 39.3*	24	8½	12 38	18 48.1
24	9	54 17	18 38.3	24	11	13 1	18 49.2
24	9	55 17	18 29.7	24	11½	14 5	18 37.4
24	10	56 39	18 29.4	24	9½	14 31	18 48.0
24	11	56 43	18 37.1	24	11	15 31	18 42.9
24	10	57 20	18 47.8	24	11	15 37	18 44.3
24	9	57 50	18 52.4	24	11	16 25	18 31.6
24	10	57 59	18 53.1	24	12	16 53	18 29.5†
24	10½	58 22	18 48.9	24	11½	17 55	18 50.3
24	10	58 53	18 46.8	24	10½	19 15	18 47.1
24	10	8 59 48	18 41.5	24	9½	19 39	18 49.5
24	11	9 0 14	18 38.6	24	11	19 55	18 42.2
24	9	0 38	18 32.6	24	11	20 3	18 41.7
24	9	1 29	18 36.9	24	9½	20 40	18 38.2
24	9	1 49	18 42.4	24	10	21 53	18 46.8
24	11½	1 58	18 36.5	24	9	22 3	18 48.6
24	11	2 7	18 36.5	24	12	23 8	18 47.8
24	10	2 25	18 36.7	24	9	24 2	18 47.5
24	9	2 37	18 35.3	24	11	24 16	18 34.4
24	11½	3 26	18 48.5	24	10½	24 17	18 38.0
24	10½	4 37	18 43.0	24	9	24 48	18 49.1
24	10	4 41	18 33.2	24	12	25 35	18 35.2
24	10	4 41	18 28.7	24	10½	26 1	18 38.0
24	10	5 46	18 40.0*	24	11	26 2	18 33.2
24	10½	6 16	18 39.2*	24	11	26 15	18 33.8
24	9	7 54	18 39.2*	24	12	27 10	18 48.0†
24	12	8 4	18 43.8	24	11	27 13	18 37.2
24	10½	8 4	18 48.4	24	9	27 31	18 44.3
24	8½	9 9 33	+18 31.4	24	10	9 28 42	+18 45.3

\* (4).

† f. of double.

‡ Double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
24	11	<sup>h. m. s.</sup> 9 28 53	<sup>°</sup> +18 48.6	24	11	<sup>h. m. s.</sup> 9 32 46	<sup>°</sup> +18 31.3
24	10	29 57	18 32.7	24	10½	33 13	18 36.0
24	8	30 24	18 28.1	24	8½	34 13	18 44.2
24	10	30 50	18 44.2	24	10½	34 36	18 34.3
24	10	30 54	18 37.3	24	10½	34 43	18 36.6
24	9	32 3	18 36.4	24	10½	34 44	18 38.6
24	10½	32 41	18 39.2	24	10½	9 34 45	+18 35.1
24	11	9 32 44	+18 39.8				

## APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

## 1,370 STARS NEAR THE ECLIPTIC,

OBSERVED IN MARCH, 1852, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
12	11	<sup>h. m. s.</sup> 6 58 38	<sup>°</sup> +18 33.7	12	10½	<sup>h. m. s.</sup> 7 2 57	<sup>°</sup> +18 49.6
12	11	59 19	18 48.2	10	11½	2 59	18 52.9
12	10½	6 59 39	18 30.9	10	10½	3 7	18 53.5
12	9	7 0 40	18 47.1	12	11	3 25	18 32.1
12	11	0 43	18 44.8	10	11½	3 37	18 52.5
12	10½	1 41	18 49.1	12	10½	3 37	18 44.1
12	12	1 46	18 44.9	12	11½	3 53	18 48.1
12	11	1 47	18 47.9	12	11½	4 9	18 41.6
12	11	2 22	18 30.7	10	11	4 15	19 3.7
10	12	7 2 46	+18 52.8	12	11	7 4 21	+18 36.7

Days. Obs.	Mag.	$\alpha$		$\delta$	Days. Obs.	Mag.	$\alpha$		$\delta$
		<small>h. m. s.</small>					<small>h. m. s.</small>		
12	II	7 4 57	+18 38.7	12	12	7 12 0	+18 45.0		
10	IO	5 2	19 11.9	10	9	12 5	19 12.6		
12	II $\frac{1}{2}$	5 13	18 48.4	10	10	12 19	19 12.6		
10	II $\frac{1}{2}$	5 16	19 4.6	10	II $\frac{1}{2}$	12 53	19 12.0		
12	II	5 16	18 47.2	12	II	12 56	18 31.2		
12	IO $\frac{1}{2}$	5 24	18 44.6	12	II	13 0	18 46.7		
10	IO $\frac{1}{2}$	5 29	18 51.1	12	IO $\frac{1}{2}$	13 5	18 31.8		
10	IO	5 36	18 52.6	12	II	13 28	18 35.2		
10	IO	6 24	18 56.4	10	IO $\frac{1}{2}$	13 34	19 3.7		
12	IO	6 30	18 39.7*	10	II $\frac{1}{2}$	13 34	18 53.3		
10	IO $\frac{1}{2}$	6 48	19 4.8	12	9	13 46	18 36.3		
12	IO	6 50	18 49.0	10	II $\frac{1}{2}$	14 6	19 3.1†		
12	IO	6 55	18 50.1	12	II	14 12	18 44.9		
10	II	8 6	18 53.7	12	IO	14 20	18 45.5		
10	II	8 25	18 54.7	10	IO	14 26	18 53.8		
10	IO	8 33	18 57.1	12	IO	15 5	18 48.3		
12	9	8 33	18 37.3	10	9 $\frac{1}{2}$	15 40	19 0.9*		
12	II	8 36	18 42.5*	10	IO	16 12	18 59.0		
12	IO	8 43	18 42.2	10	12	16 18	19 4.7		
12	II	8 56	18 39.1	12	IO $\frac{1}{2}$	16 23	18 35.8		
10	II $\frac{1}{2}$	8 57	18 55.9	12	12	16 26	18 37.8		
12	II	9 5	18 37.5	12	II	16 30	18 47.7		
10	II	9 7	18 57.8	12	II	16 36	18 42.5		
10	II	9 38	18 55.9	12	12	17 27	18 34.8		
10	II $\frac{1}{2}$	9 53	18 51.1	12	IO	17 38	18 35.1		
12	IO	9 54	18 31.0	8	IO	18 19	22 2.6		
10	12 $\frac{1}{2}$	10 32	18 51.3	8	IO $\frac{1}{2}$	18 27	22 0.3*		
10	IO	10 47	18 53.2	10	II	18 28	19 6.3		
12	II	10 50	18 48.7	12	12	18 33	18 41.6§		
10	12 $\frac{1}{2}$	11 15	18 54.8	12	II	18 44	18 31.8		
10	12	11 22	18 56.4	12	IO	18 46	18 36.8		
12	II	11 22	18 41.9*	8	IO $\frac{1}{2}$	18 59	22 5.5†		
10	II $\frac{1}{2}$	11 24	18 51.1	10	IO	19 40	19 11.7		
12	8	11 39	18 47.4	12	12	19 43	18 32.7		
12	II	7 11 45	+18 44.1†	12	II $\frac{1}{2}$	7 20 4	+18 35.0		

\*(4).

† L. of double.

‡ Double.

§ f. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
12.	II	<sup>h. m. s.</sup> 7 20 13	<sup>°</sup> +18 34.2*	8	9½	<sup>h. m. s.</sup> 7 26 26	<sup>°</sup> +22 8.3
12	IO	20 23	18 38.3	12	II	26 27	18 47.9
IO	IO	20 31	18 50.5	12	II	26 33	18 44.6
12	9½	20 37	18 35.1	8	9½	26 50	21 57.5
8	10½	21 0	22 8.0	10	10½	27 6	18 59.5†
12	IO	21 5	18 35.1	10	9½	27 26	18 51.6
8	II	21 28	22 8.2	8	II	27 27	22 7.9
IO	II	21 53	18 51.2	8	IO	27 30	22 9.9
8	IO	21 59	21 54.1	12	9	27 30	18 34.9
IO	IO	22 24	18 51.9	12	10½	27 33	18 38.3
12	IO	22 38	18 38.7	12	9	27 42	18 42.9
8	9	22 45	21 58.6	12	9½	28 11	18 41.9
IO	12	22 56	18 54.1	10	9	28 30	18 51.2
12	10½	22 56	18 39.9	8	II	28 38	22 9.4
8	9½	23 1	21 58.1	8	II	28 44	22 5.9
IO	10½	23 3	18 54.9	8	9	28 51	22 2.6†
8	IO	23 29	21 51.8	10	12	29 8	18 52.6
12	12	23 33	18 39.1	10	9½	29 16	18 55.6
8	II	23 44	22 3.1	10	12	29 24	18 52.9
10	12½	23 51	19 7.3	12	II	29 31	18 36.8
IO	10½	24 3	19 3.7	12	IO	29 46	18 44.3
IO	II	24 7	19 9.8	10	12	30 8	18 53.5:
8	II	24 19	22 6.6	12	11½	30 10	18 44.5
8	11½	24 27	22 8.5	10	12	30 15	18 52.0
12	10½	24 32	18 36.6	12	II	30 21	18 42.4
8	11½	24 41	22 5.7	10	12	30 59	19 8.2
8	11½	24 46	22 1.6	8	II	31 14	22 8.4§
12	10½	25 4	18 45.5	10	11½	31 31	18 57.2
IO	9½	25 12	19 5.8	12	9½	31 34	18 42.6
IO	10½	25 19	19 4.5†	10	12	31 42	18 58.9
8	8½	25 30	21 56.8	10	12	31 50	18 57.6
8	9½	26 0	22 11.2	12	IO	31 53	18 48.8
12	IO	26 0	18 43.7	12	10½	32 6	18 41.8
IO	9½	26 20	18 53.4	10	II	32 21	18 55.3
12	II	7 26 21	+18 46.2	10	12	7 32 49	+18 51.7

\* N. p. of double.

† S. p. of double.

‡ (4).

§ L. of double.

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		<i>h. m. s.</i>		<i>° ' "</i>			<i>h. m. s.</i>		<i>° ' "</i>
8	11½	7 32 56		+21 53.4	8	11	7 38 54		+21 56.2
12	10	33 1		18 37.2	12	11	39 21		18 32.0
8	10½	33 12		21 59.9	12	10	39 27		18 42.3
8	10½	33 14		21 56.5	12	10	39 28		18 31.7
8	10	33 14		21 53.1	10	12	39 39		19 7.1
8	9½	33 52		21 52.0	10	11	39 39		19 7.3
12	11	33 54		18 37.0	8	10	39 46		21 56.0
12	11½	33 55		18 31.4	10	10½	40 30		19 4.3
12	12	34 26		18 32.7	10	12	40 47		18 56.5
12	11	34 31		18 32.8	8	10½	40 58		21 56.6
10	11½	34 34		19 8.6	8	10½	41 6		21 58.2
12	12	34 54		18 36.4	10	10½	41 8		19 2.0†
12	11	35 3		18 52.3	12	10½	41 21		18 37.2
8	9	35 14		22 4.1	12	9½	41 30		18 36.2
8	9½	35 21		22 11.1	8	9	41 31		22 4.2
8	10	35 23		22 7.8:	12	11	42 32		18 44.0
8	11	35 35		22 4.6*	8	9½	42 54		21 54.7
12	8	35 44		18 32.3	10	11½	42 59		18 55.2
10	9½	35 54		19 9.6::	8	9	43 4		21 58.2
12	10½	35 58		18 38.7	10	11	43 10		18 59.3†
12	9½	36 4		18 33.5	8	10½	43 13		22 1.7
12	11½	36 7		18 31.1†	12	10½	43 14		18 42.8†
10	9	36 32		19 2.4†	8	9	43 20		21 54.4
10	12½	36 48		19 7.9	12	10	43 22		18 46.0
10	9	36 53		19 1.1†	8	10	43 47		21 50.1
12	11	37 8		18 50.3	12	11½	43 53		18 47.9
12	11	37 16		18 46.4	10	12½	44 39		19 3.2
8	12	37 48		21 53.1	10	12	44 41		19 3.0
8	12½	37 54		21 53.1	8	10	44 44		21 54.5
10	11½	38 2		19 10.0	10	12½	44 51		19 3.5
8	9½	38 5		21 53.1	10	12½	45 0		19 4.8
12	11	38 6		18 32.7	12	11	45 3		18 34.4
10	10	38 11		19 1.3	12	9½	45 7		18 38.5
12	11½	38 20		18 37.9§	12	12½	45 15		18 31.7
8	9	7 38 26		+21 54.5	12	12	7 45 18		+18 33.9

\* N. f. of double.

† p. of double.

‡ (4).

§ N. p. of double.

Days.Obs.	Mag.	$\alpha$ .	$\delta$ .	Days.Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>°</small>			<small>h. m. s.</small>	<small>°</small>
10	II	7 45 19	+18 57.8	12	12	7 52 44	+18 38.5
8	10½	45 24	21 53.0	10	II	53 26	18 51.5
8	10½	45 44	22 6.4	8	II	53 32	22 1.1†
10	12	46 17	18 52.8	12	10	53 32	18 46.0
10	12	46 20	18 53.7	10	11½	53 40	18 53.0
8	10½	46 23	21 57.0	8	II	53 58	21 53.6
10	12	46 24	18 52.6	12	12	54 5	18 49.9
12	11½	46 34	18 50.1	12	12	54 12	18 47.8
12	II	47 5	18 40.5	10	9½	54 17	19 8.4:
8	II	47 9	22 0.3	10	10	54 24	18 53.5
10	10	47 16	18 55.2	12	9½	54 30	18 45.2
8	9½	47 31	21 54.9*	12	10	54 39	18 34.7
12	II	47 38	18 42.2	10	10	54 55	18 51.5
10	10	47 39	18 58.6	12	9	55 4	18 47.2
8	II	47 57	22 7.1	8	10½	55 42	22 2.8†
12	10	48 0	18 38.4	12	9	55 44	18 31.6
10	II	48 14	18 50.9	8	10½	55 48	22 0.9
8	10	49 3	22 7.1	12	11½	55 52	18 31.8
10	II	49 6	18 55.1	10	10	55 55	18 55.9
8	10	49 35	22 0.3	12	II	56 3	18 42.1
10	11½	49 52	19 8.3	8	10	56 10	21 58.8
10	11½	50 18	18 55.0	10	10	56 10	19 2.4
12	II	50 24	18 30.2	10	10	56 10	18 55.0
10	9½	50 38	18 56.7	12	10½	56 23	18 46.7
10	10½	50 46	18 57.4	12	11½	56 27	18 47.2
10 12	9½	50 52	18 49.3	8	10	56 32	22 7.6
10	10½	50 59	18 49.0	10	9	57 18	19 3.0
8	9	51 24	21 55.9	12	11½	57 22	18 32.3§
8	10½	51 34	21 53.5	8	II	57 52	22 9.7†
8	9	51 51	21 58.4	12	12	57 56	18 32.8
10	12	52 4	19 7.2	12	10	58 2	18 37.3
10	II	52 15	18 58.1	8	11½	58 5	22 8.2
12	10	52 22	18 38.1	8	9	58 8	22 3.0†
12	11½	52 25	18 42.4†	12	9½	58 9	18 49.1
10	12	7 52 31	+19 5.7	8	12	7 58 14	+22 8.8

\* N. f. of double.

† L. of double.

‡ (4)

§ N. p. of double.



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
8	10	<sup>h. m. s.</sup> 7 58 22	<sup>°</sup> +22 8.7	10	10½	<sup>h. m. s.</sup> 8 4 9	<sup>°</sup> +18 58.6
12	10½	59 1	18 40.6	10	10	4 33	19 5.9
12	12	59 7	18 32.8	8	9	4 34	22 3.5
12	11	59 9	18 35.9	8	9	4 47	22 6.0
12	10½	59 29	18 34.4	8	10	4 47	22 7.9†
10	12	59 37	18 58.9	12	10½	4 48	18 35.9
10	11½	59 42	18 53.8	12	12	4 50	18 38.5
10	12½	7 59 55	18 56.6	10	10	5 5	18 57.4
8	9½	8 0 6	22 11.0	12	11	5 9	18 36.2
8	9½	0 31	22 13.1	8	8½	5 14	22 7.0
12	10	0 35	18 34.0	12	11	5 54	18 34.5
12	10	0 43	18 36.6	8	9½	6 2	21 52.6
12	10½	0 44	18 35.1	8	10½	6 19	21 59.8
8	10	0 51	22 10.8	10	10	6 25	19 3.3
10	9½	0 59	19 9.6	10	11½	6 27	19 1.6
10	10	1 7	19 7.5	10	9½	6 37	18 57.7
12	10	1 22	18 36.0	10	11	6 40	18 51.6
12	10½	1 37	18 52.1	12	9	6 58	18 36.1
10	11	1 43	18 53.5	12	11½	6 58	18 32.5
8	10	2 15	22 2.5*	10	10	7 36	18 51.9
8	12½	2 17	22 10.7	12	9½	7 44	18 35.1
12	10	2 21	18 32.5	12	11½	7 49	18 49.3
10 12	10	2 24	18 49.3	12	10½	7 50	18 34.4
8	11½	2 28	22 10.8	12	10½	7 52	18 49.6
10	11½	2 30	18 55.0:	8	11	7 58	22 4.8
8	10	3 9	22 4.7	8	11½	7 59	22 7.1
12	12	3 24	18 37.9	8	11	8 4	22 9.1
10	10	3 26	18 53.0	10	9½	8 10	19 4.8
8	11½	3 31	22 8.3	10	12	8 19	19 6.8
10	10½	3 34	18 54.7	10	9½	8 30	19 6.3
12	10½	3 40	18 44.1	8	9	8 31	22 6.4
12	10½	3 40	18 48.7	10	12	8 44	19 4.5
8	11	3 50	21 56.3	12	11½	8 45	18 49.7
8	11	3 52	21 58.6	8	11½	9 7	22 8.4
12	10	8 3 58	+18 37.1	8	10½	8 9 21	+22 3.0

\* (4).

† Double.

Days.Obs.	Mag.	$\alpha$ .		$\delta$ .	Days.Obs.	Mag.	$\alpha$ .		$\delta$ .
		<sup>h.</sup> 8	<sup>m.</sup> 9	<sup>s.</sup> 40			<sup>h.</sup> 8	<sup>m.</sup> 15	<sup>s.</sup> 40
12	12			+18 32.9	10	11½			+19 9.1
8	8½			22 3.3	12	12½			18 46.6
12	10			18 32.2	12	10			18 34.1
10	12			19 5.3	8	10			22 10.7
10	11			19 4.1	10	11			19 2.1
10	12			19 6.5	12	9			18 48.2
10	9			18 52.2	12	11			18 45.3†
10	10			19 4.8	10	11½			19* 7.9
12	11			18 46.6	8	12			22 10.3
8	10			21 54.4	12	12			18 45.2
12	11			18 45.1	10	10½			18 58.9*
8	11			21 57.4	8	12			22 6.8
8	11			21 59.5	10	12			19 6.4
8	9			21 55.1	12	12			18 43.5
12	9½			18 31.1	8	9½			21 55.5
10	12			18 54.5	8	10½			21 56.8
10	12			18 54.4	10	9			19 2.0
10	12			18 54.3	8	10½			21 57.6
12	11			18 39.4	12	10			18 41.9
8	10			21 52.5	10	11½			18 56.9†
8	10			21 56.7	12	10			18 33.9
12	10½			18 39.6*	12	11			18 42.9†
8	11			21 59.3	8	11			21 59.4
10	11½			19 9.1	8	11½			22 10.2
10	12			19 6.3†	8	11½			21 59.7
12	10½			18 41.7*	8	11			22 10.5
10	11½			18 53.2	10	12½			18 55.1§
8	10			21 57.5:	10	12			18 56.5
10	9			19 11.6	12	11			18 47.6
8	11			22 10.5	8	11			21 55.1
10	10			19 8.0	12	12			18 49.6
12	11			18 35.8	8	10			22 0.3
10	12			19 10.0	12	10			18 49.0
10	10			19 8.2	8	10½			21 58.1
8	9			+22 4.8	8	12			+21 57.7

\* (4).

† L. of double.

‡ Double.

§ p. of double.

|| f. of double.

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		h. m. s.					h. m. s.		
10	10	8 21 52	+19	9.7	8	12	8 28 0	+22	5.9
12	11½	21 56	18	48.4	10	11	28 23	18	56.7
10	11	22 11	19	8.0	10	10	28 35	18	56.3
10	9½	22 19	18	53.3	10	11	28 37	18	59.1
12	9½	22 29	18	37.1	12	11	28 45	18	42.9
12	10	22 39	18	39.2	8	10	28 46	22	8.3
12	12	22 46	18	35.4	12	9	29 9	18	42.0†
12	10½	22 49	18	30.9	10	12	29 18	18	59.6†
8	8½	23 14	22	12.1	8	11½	29 19	22	0.2
8	12	23 41	22	6.9	8	11½	29 19	21	58.0
8	12	23 42	22	8.0	12	11½	29 29	18	41.6†
10	10	23 48	18	59.2	12	11½	29 30	18	44.6
10	9	23 50	19	9.7	8	10	29 35	21	59.3
10	11	23 55	19	7.9	12	11	29 35	18	48.0
12	12	24 10	18	33.7	8	10	29 56	21	56.6
12	11½	24 12	18	32.4	8	10½	30 27	21	56.0
8	10	24 13	22	4.9	10	9½	30 33	18	58.0
8	12	24 24	22	5.0	12	9½	30 38	18	42.0
12	12½	24 26	18	32.9	8	11	30 47	21	58.4
12	11	25 2	18	47.5	8	9	30 49	21	50.6
10	9	25 18	18	51.7	12	9½	30 56	18	44.7
10	10	25 23	18	57.7	10	8	31 9	19	4.7
12	11	25 25	18	46.5	8	9	31 38	22	4.1
8	10½	26 6	21	54.3	8	11½	31 54	22	5.5
10	11½	26 7	18	55.4	8	12	32 7	22	6.3
8	9	26 8	22	0.3†	12	11	32 15	18	44.5
10	12	26 8	18	56.2	8	9	32 17	22	5.4
8	10	26 23	21	54.2	12	11½	32 40	18	45.8
10	10	26 32	19	1.3	12	11½	32 50	18	39.9
12	10½	26 32	18	43.7	10	9½	32 58	19	1.8
12	11	26 36	18	45.5	8	11½	34 1	21	59.8
12	11	26 37	18	44.3	10	9½	34 4	18	55.3
12	12	27 3	18	34.7	8	11	34 9	22	0.5
12	9	27 22	18	39.8	10	11	34 40	19	1.7
10	9	8 27 28	+18	58.9	8	11	8 34 42	+22	8.9†

\* L. of double.

† (4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
10	10	<sup>h. m. s.</sup> 8 34 46	+19 5.2	10	10	<sup>h. m. s.</sup> 8 41 29	+18 55.1
10	11	34 53	19 2.4*	10	9½	41 35	18 56.6
12	9½	34 54	18 39.3	10	10	42 53	18 57.3
12	10	35 2	18 47.2	8	12	42 55	22 8.5
10	10½	35 31	19 2.2*	8	12	43 4	22 5.9
10	9½	35 38	19 2.3*	10	9	43 10	19 2.4*
8	12	36 4	21 55.2	10	10½	43 10	19 5.6
8	9½	36 21	21 52.2	10	10	43 23	19 4.2
8	9½	36 51	22 9.3	8	11	43 27	21 52.9
10	11	37 5	18 55.1	10	9½	44 16	19 8.1
8	9½	37 14	21 56.8	8	10	44 40	21 58.1
8	10	37 36	22 4.4	8	10	44 46	22 5.9
10	10	37 48	18 57.6	8	11	45 17	22 0.1
12	10½	37 50	18 34.9	8	9½	45 46	21 57.6
8	8½	37 53	22 10.7	8	11	45 46	21 50.6
10	10½	38 7	18 59.8	10	12	46 20	19 2.6
8	9	38 8	22 10.9	8	10½	47 2	22 6.2
12	11	38 18	18 39.6	10	10	47 6	18 54.6
12	10½	38 24	18 40.1	10	9½	47 7	18 58.3
10	11	38 28	18 56.9	10	10	47 21	18 57.0
10	12	38 34	18 55.1	8	11½	47 31	22 7.4
12	10½	38 37	18 32.4	10	9	47 35	19 5.2
8	10	38 46	21 52.9	8	11½	48 13	22 14.3
8	10	39 0	21 55.5	10	9½	48 40	19 9.5
10	9	39 1	18 56.5	10	9½	48 59	18 58.8*
10	11	39 42	19 6.7	8	11	49 34	22 3.2
10	10	39 44	19 4.5	8	11	49 37	21 53.3
10	11	40 5	18 54.7	8	11	50 1	22 8.5
12	10½	40 21	18 36.2	10	9	50 14	19 9.1†
8	10	40 26	21 54.3	10	11½	51 5	19 9.6
12	10	40 26	18 46.6	8	11	51 8	22 6.0
8	10½	40 27	22 0.7	8	11½	51 12	22 5.9
8	10	40 30	21 56.7	10	11½	51 13	19 5.7
12	10½	40 33	18 37.2:	10	9½	51 16	19 8.6
10, 12	9½	8 40 42	+18 48.2	10	9½	8 51 25	+19 5.8

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
8	11	<sup>h. m. s.</sup> 8 52 16	+21 56.1	12	12½	<sup>h. m. s.</sup> 8 59 16	+19 52.6
10	12	52 21	18 51.6	12	12½	59 18	19 55.2
8	11	52 30	21 59.4	8	10½	59 19	21 59.3
8	10½	52 35	22 6.0	19	11½	59 20	12 30.7
10	12	52 57	18 52.7	8	9½	59 30	21 54.9
10	12½	53 1	18 52.1	10	12	59 46	18 53.4
8	12	53 32	21 53.8	10	12	8 59 59	18 56.6
10	12	53 56	18 51.0	19	12	9 0 1	12 14.4
10	11	53 59	19 3.3	10	10	0 3	19 7.9
10	11½	54 10	19 2.0	8	12	0 14	22 10.0
8	10	54 21	22 8.5	19	11	0 17	12 11.8
10	12	54 34	18 53.2	19	11½	0 18	12 17.4
12	11	54 50	20 12.6	12	10	0 38	19 59.0
8	12	55 0	21 53.8	10	11	0 42	18 57.9
10	10	55 8	19 6.8	12	10	0 46	19 56.6
10	11	55 10	18 51.8	12	11	1 2	20 3.7
10	11	55 22	18 59.2	10	10½	1 4	19 2.0
10	11	55 31	18 58.7	19	11½	1 9	12 10.0
12	11	55 52	20 0.6*	12	10	1 19	19 56.4
8	10	56 8	22 11.4	12	11	1 23	20 0.5
8	11	56 11	22 7.9	8	10½	1 30	21 55.8
10	10½	57 5	18 58.4	19	11	1 32	12 9.8
10	10½	57 11	18 56.8	8	10½	1 51	21 56.1
10	9½	57 20	18 57.2	8	12	2 7	21 53.2
12	11	57 22	19 57.9	10	11½	2 16	19 7.6
8	11½	57 28	22 6.3	12	10	2 28	19 56.2
12	10	57 46	19 59.9	10	12	2 30	19 4.5
8	10½	58 14	21 58.8	10	12	2 44	18 56.3
19	10	58 19	12 12.0	10	9	2 50	19 10.4
10	12	58 29	19 4.3	8	11	2 53	22 5.1
10	12	58 36	19 5.9	10	9	3 12	19 9.4
8	10	58 59	21 52.9	12	9½	3 18	20 10.7
19	11	59 8	12 25.9	8	11½	3 24	22 3.1
12	12½	59 11	19 59.8	12	9	3 35	20 7.7
19	11	8 59 15	+12 27.6	8	11	9 3 49	+21 54.4

\* S. p. of double.

Days.Obs.	Mag.	$\alpha$ .		$\delta$ .	Days.Obs.	Mag.	$\alpha$ .		$\delta$ .
		h. m. s.		$^{\circ}$			h. m. s.		$^{\circ}$
8	11 $\frac{1}{2}$	9 3 49	+21	52.3	19	12 $\frac{1}{2}$	9 7 55	+12	14.3
8	11 $\frac{1}{2}$	3 54	22	1.9	12	10	7 57	20	2.8*
19	10 $\frac{1}{2}$	4 5	12	26.9	19	11	8 38	12	13.0
10	11 $\frac{1}{2}$	4 10	19	4.0	19	11	8 51	12	14.9
10	10	4 11	19	5.6	10	12 $\frac{1}{2}$	8 54	18	52.7
19	11	4 13	12	21.8*	12	11	9 5	19	50.1
10	11	4 17	19	2.1*	19	9 $\frac{1}{2}$	9 6	12	17.5
12	10	4 26	20	3.0	10	10	9 18	19	9.5
12	9 $\frac{1}{2}$	4 28	20	10.0	19	11	9 26	12	13.6
12	11	4 33	20	7.3	12	9 $\frac{1}{2}$	9 27	20	12.6
8	10 $\frac{1}{2}$	4 42	22	6.4	19	10	9 27	12	20.1*
19	10 $\frac{1}{2}$	5 6	12	17.0	19	11	9 41	12	13.6
10	9 $\frac{1}{2}$	5 7	19	4.8	12	11	10 1	20	10.2
8	10	5 10	21	55.1	12	11 $\frac{1}{2}$	10 23	20	10.0
10	12	5 32	18	53.9	19	10	10 26	12	10.1
10	11 $\frac{1}{2}$	5 37	18	51.7	10	10	10 40	18	57.4†
19	11	5 43	12	26.0	19	11 $\frac{1}{2}$	10 48	12	30.5
12	10 $\frac{1}{2}$	5 49	19	55.2	10	11	10 51	18	53.0
12	10	5 50	20	8.0	12	10 $\frac{1}{2}$	10 51	20	10.2
19	9	6 0	12	16.3	12	10	10 59	20	7.7
12	11	6 3	20	2.6	10	11	11 11	18	59.2
12	10 $\frac{1}{2}$	6 6	19	53.9	19	10	11 22	12	13.0
12	10	6 8	19	54.7	10	9	11 23	18	53.9
10	11 $\frac{1}{2}$	6 18	18	51.5	12	11	12 7	19	52.6
19	9 $\frac{1}{2}$	6 31	12	21.7	19	11	12 7	12	28.0
10	12	6 35	18	51.2	19	11	12 15	12	18.6
10	12	7 6	18	53.7	19	8	12 20	12	9.6
19	9	7 18	12	18.3	19	11	12 24	12	24.3§
10	11 $\frac{1}{2}$	7 20	18	54.5	12	10	12 48	20	13.8
12	11	7 22	20	4.5	12	8	12 55	20	4.4
10	9 $\frac{1}{2}$	7 41	18	54.0	10	12	13 2	19	3.7
12	10	7 45	20	2.8*	12	11	13 4	20	5.3
10	10 $\frac{1}{2}$	7 48	18	58.9†	10	12 $\frac{1}{2}$	13 16	19	5.6
10	9	7 49	18	52.7	10	10	13 21	19	6.2
19	12 $\frac{1}{2}$	9 7 50	+12	13.9	12	12	9 13 28	+19	54.1

\* (4).

† First of three.

‡ N. f. of double.

§ S. f. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
12	9½	9 14 1	+20 11.3	12	9½	9 19 4	+20 10.5
19	11	14 21	12 12.1	19	9½	19 12	12 15.9
19	11½	14 23	12 28.0	10	10	19 25	19 0.7
12	9½	14 24	20 9.0	12	11	19 30	20 3.3
19	12½	14 28	12 19.7	10	9½	19 39	18 49.5
12	10½	14 37	20 8.2	12	11½	20 3	20 6.3
19	11	14 44	12 18.0	12	12	20 7	20 7.1
12	11	14 51	20 2.7	12	11½	20 7	19 52.6
12	10	14 57	20 2.9	12	12	20 14	20 8.2
19	11½	15 18	12 25.8*	19	11	20 24	12 14.7
19	11½	15 46	12 23.2	19	12½	20 31	12 14.6
10	11	15 55	19 1.6†	19	12	20 45	12 14.0
10	10½	15 58	18 54.9	10	11½	20 53	18 56.3
19	11	15 59	12 23.3	10	11	21 5	18 56.6
19	10½	16 0	12 29.7	10	11½	21 8	18 56.4
19	10½	16 4	12 30.8	19	11½	21 11	12 30.6
19	11½	16 26	12 28.9	10	11½	21 13	18 53.1
12	10	16 27	19 56.2	19	12	21 35	12 28.9
12	12	16 38	19 56.6	19	10	21 37	12 30.5
12	10½	16 42	20 10.0	12	9½	21 55	20 14.5
10	10	16 43	18 55.8	12	11½	21 59	19 59.2
12	11	17 20	19 50.1	19	11	22 14	12 17.2
19	11	17 20	12 11.9	10	9	22 17	18 55.6
10	10	17 21	18 58.6	19	10½	22 21	12 25.7
10	9	17 24	18 53.6	10	9	22 25	18 55.2
19	9½	17 27	12 19.3	10	12	22 43	18 56.1
10	12	17 38	18 54.4†	19	11½	22 47	12 23.2
12	9½	17 38	19 49.8	12	10	23 7	19 57.8
12	9½	17 40	19 52.7	10	12	23 17	19 0.0
19	11	17 42	12 12.7	19	9½	23 38	12 18.4
19	11	17 43	12 16.6	12	10	23 41	20 4.5
19		17 58	12 14.8	10	9	24 2	19 3.9
10	9	18 46	18 57.7	12	9½	24 11	19 55.5
19	11½	18 52	12 24.1	10	9½	24 34	19 2.8†
19	11	9 18 55	+12 23.6	10	11	9 24 39	+18 57.9

\* N. p. of double.

† (4).

‡ Double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
12	10	9 24 45	+20 9.5	10	12	9 31 0	+19 3.3
19	11	24 59	12 15.9	10	9	31 17	19 3.8
12	10	25 24	20 13.3	19	11	31 19	12 17.0
12	9½	25 50	19 56.7	12	10½	31 52	20 8.8
19	10½	25 50	12 17.0	12	11	31 58	20 10.8
12	10½	26 11	20 7.4	19	11½	32 0	12 28.1
19	9	26 16	12 11.7	10	11	32 19	18 55.0
19	11	27 2	12 14.5	10	9	32 25	19 4.3
19	9	27 18	12 23.6	19	12	32 32	12 16.4
12	11	27 21	19 55.8	10	10½	32 33	18 51.6
19	10½	27 25	12 13.7	19	11½	32 56	12 17.3
19	9	27 35	12 12.7	10	11	32 59	18 59.0
12	11½	27 43	20 4.9	19	8½	33 5	12 14.6
12	9	27 44	20 11.2	10	10	33 34	18 58.2:
12	9	27 56	20 6.7	10	10	33 39	19 2.8
10	11	28 5	18 51.7	19	9½	33 47	12 28.9
12	11½	28 13	12 28.7	19	9½	33 55	12 21.9
12	10½	28 21	19 54.4*	19	9	34 5	12 27.3
10	11½	28 31	18 51.5	10	8	34 7	18 54.2
10	10	28 49	19 8.4	19	11½	34 15	12 24.5
12	11	28 54	12 13.8	19	12	34 20	12 26.9
10	11½	29 3	19 6.7	19	12	34 39	12 26.2
12	9	29 17	20 4.5	19	9½	34 40	12 22.4
12	10½	29 24	20 6.9	19	10	35 18	12 23.3
19	12	29 31	12 18.5	19	10	35 39	12 19.7
12	10½	29 34	20 6.5	19	11½	36 10	12 19.5
12	10	29 36	19 58.8:	19	12	36 51	12 14.2†
10	12	29 46	18 53.8:	19	11½	37 11	12 14.3
12	10	29 52	20 8.9	19	10	37 54	12 11.7
19	9½	30 6	12 24.4	19	10	40 8	12 27.5
19	10½	30 9	12 12.1	19	12	40 30	12 24.9
10	12	30 23	19 1.9†	19	12	40 38	12 12.2
10	12	30 23	19 7.6	19	12	41 33	12 28.9
12	12½	30 40	20 0.0	19		41 45	12 13.6
19	11	9 30 50	+12 29.1	19	10	9 41 52	+12 12.5

\* N. p. of double.

† (4).

‡ Double.

N



Days. Obs.	Mag.	$\alpha.$		$\delta.$	Days. Obs.	Mag.	$\alpha.$		$\delta.$
		<small>h. m. s.</small>		<small>° ' "</small>			<small>h. m. s.</small>		<small>° ' "</small>
19	11½	9 42 16		+12 12.9	19	10	9 56 39		+12 19.2*
19	12	43 58		12 14.5	19	11½	57 2		12 24.9
19	10½	44 28		12 29.7	8	11	57 20		14 31.4
19	11½	45 22		12 26.6	8	9	57 34		14 28.9
19	9	45 22		12 21.2	19	11	58 0		12 27.0
19	9	45 34		12 21.7*	8	11	58 5		14 12.2
19	9½	46 44		12 28.4	19	11	58 20		12 22.7
19	9	46 55		12 33.3	8	10	58 23		14 13.7
19	10½	47 36		12 9.0	19	11	58 34		12 26.1
19	10½	47 39		12 12.6	8	11	58 38		14 28.2
19	12	48 30		12 14.8	19	10	58 46		12 19.6
19	12½	48 45		12 16.9	19	10	59 12		12 25.0
19	9	48 53		12 17.6	8	11½	9 59 22		14 24.2
19	12	48 55		12 13.9	19	10	10 0 13		12 14.1
19	9½	49 40		12 12.8	19	10	0 19		12 14.8
19	9½	49 50		12 28.8	19	10½	0 19		12 13.8
19	10	50 25		12 9.5	8	9	0 23		14 19.4
19	9	50 58		12 9.1	8	11	1 4		14 15.9
19	11	50 59		12 24.9	8	11	1 15		12 17.2
19	10	52 47		12 27.3	8	10	1 31		14 17.4
19	11½	53 5		12 15.6	8	11	1 39		14 19.4
19	12	53 12		12 15.3	8	9½	1 45		14 23.1
8	11½	53 31		14 17.4	8	10	1 57		14 18.2
8	12	53 36		14 27.7	8	11	2 56		14 12.4†
19	11½	53 51		12 15.8	8	9½	3 44		14 8.3
8	10	53 56		14 24.2	8	11	3 53		14 13.2
19	11½	54 5		12 12.8	19	10½	3 54		12 19.9
19	11	54 6		12 17.3	19	11½	4 17		12 19.8
8	11½	54 10		14 18.1	8	12	4 25		14 20.7
8	10½	54 38		14 20.4	8	11½	4 32		14 26.9
19	12	54 40		12 13.9	8	11½	5 8		14 12.8
19	12	54 48		12 11.8	19	12	5 44		12 16.6
19	10	55 10		12 32.9	19	10½	5 47		12 14.8
19	11	56 17		12 19.4	8	11½	6 38		14 28.7
19	11	9 56 25		+12 18.1	8	11½	10 6 45		+14 18.6*

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
8	11	<sup>h. m. s.</sup> 10 7 5	<sup>°</sup> +14 10.0	19	11	<sup>h. m. s.</sup> 10 15 20	<sup>°</sup> +12 11.6
19	11	7 12	12 25.7	19	9	15 53	12 10.3
19	12	7 22	12 25.2	19	9	16 21	12 12.4
19	12	7 41	12 18.3	19	12	16 22	12 14.2:
19	11½	7 47	12 18.5	10	9½	16 26	10 5.7
19	12	7 54	12 19.1	10	11½	16 39	9 57.3
19	10	8 16	12 16.6	10	12½	16 40	9 55.3
8	11	8 50	14 24.6	8	10	16 46	14 21.0
8	11½	9 4	14 28.9	8	12	16 49	14 18.3*
19	10½	9 20	12 21.9	19	11½	16 51	12 12.2
19	12	9 32	12 28.9	19	11½	17 34	12 20.0
19	9	10 3	12 24.6	19	10½	17 42	12 20.2*
8	9½	10 11	14 17.8*	19	11½	17 54	12 20.0*
19	12	10 27	12 13.0	10	10	18 5	10 5.7
8	11½	10 49	14 13.1	10	10½	18 20	10 6.3
19	11	10 51	12 9.1	10	11½	18 35	10 4.1
19	10½	11 18	12 29.4	10	11	18 39	9 53.3
19	11	12 8	12 26.0	10	11	19 6	9 59.0
19	10	12 35	12 26.6	19	12½	19 11	12 29.3
19	11½	12 36	12 23.3	8	10	19 14	14 10.5
8	11	12 42	14 10.8	8	11½	19 29	14 21.7
19	12	12 53	12 14.7	19	10	19 44	12 23.5
8	11½	13 45	14 18.1	19	10½	19 57	12 26.2
19	10	13 45	12 12.7	19	11½	20 0	12 24.1
19	10	13 49	12 24.1	10	10	20 22	10 5.3
19	10	13 49	12 9.7	8	10	20 44	14 26.8
10	12	13 58	10 10.0	10	9	21 18	10 2.4
10	12	14 3	10 7.9	8	10	21 47	14 11.6
8	12	14 17	14 28.2	8	12	22 4	14 27.0
10	11½	14 23	10 6.7	10	12	22 17	10 7.0
8	11	14 34	14 28.4	19	11	22 26	12 23.2
19	9	14 39	12 14.3	19	11	22 28	12 30.8
10	12	14 56	10 4.2	10	12	22 44	10 4.0
8	10½	15 13	14 24.8	10	12	22 45	10 8.9†
8	10½	10 15 20	+14 25.5	8	11½	10 22 50	+14 14.4

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
8	9 $\frac{1}{2}$	10 23 14	+14 23.2	10	10	10 31 5	+10 3.2
19	12	23 14	12 16.5	10	10 $\frac{1}{2}$	31 10	10 2.4
10	12	23 34	10 7.3	10	11	31 37	9 59.7
19	10 $\frac{1}{2}$	23 44	12 18.5	8	10	32 1	14 14.1
8	11	23 54	14 20.5	10	9 $\frac{1}{2}$	33 2	10 2.8:
10	12	23 58	10 6.8	10	10	33 19	10 6.8
10	12	24 1	10 9.0	8	10	33 45	14 18.1*
19	11 $\frac{1}{2}$	24 11	12 22.4	10	12	34 34	10 6.7
19	11 $\frac{1}{2}$	24 23	12 24.1	10	10 $\frac{1}{2}$	34 49	10 10.8
19	11	24 24	12 16.6	10	10	34 56	10 2.9
8	10	24 33	14 23.1	10	12	35 51	10 12.2
10	10	25 10	10 1.5*	10	10 $\frac{1}{2}$	36 40	10 1.7
10	11 $\frac{1}{2}$	25 18	9 55.0	10	10	37 31	10 4.2:
8	9 $\frac{1}{2}$	25 28	14 25.6	10	12	37 56	9 53.8
10	12	25 44	9 53.3	10	9 $\frac{1}{2}$	38 56	9 54.0
19	11 $\frac{1}{2}$	26 9	12 22.5*	10	9	39 22	10 2.5
19	11	26 12	12 22.3*	10	12	40 11	9 54.6
19	11	26 25	12 22.1	10	11	40 15	9 51.0
10	10	26 32	9 54.9	10	11	40 35	9 51.9
10	12	26 43	9 52.9	10	10 $\frac{1}{2}$	40 51	9 54.5
8	9	27 5	14 28.3	10	11 $\frac{1}{2}$	41 38	10 1.4
19	11	27 12	12 22.8	10	11 $\frac{1}{2}$	42 50	10 2.0
8	9 $\frac{1}{2}$	27 17	14 18.6	10	9 $\frac{1}{2}$	43 2	9 59.6
10	12	27 30	10 8.2	10	12	45 38	9 53.8
10	12	27 48	10 6.0	10	12	46 0	9 58.5
19	9	28 9	12 24.3	20	10 $\frac{1}{2}$	46 17	9 58.6*
10	11	28 23	10 3.9:	10	10 $\frac{1}{2}$	46 45	10 4.8
10	10	28 38	10 1.1*	10	10 $\frac{1}{2}$	47 16	9 55.6
8	11	28 49	14 23.2	10	10	48 14	10 4.1
10	10 $\frac{1}{2}$	29 1	9 58.9	10	12	48 27	9 53.7
8	11	29 55	14 20.1*	10	12	48 35	9 56.3
10	10 $\frac{1}{2}$	30 19	10 5.5	10	11	48 49	10 6.4
10	10	30 30	10 3.1	10	9	49 58	9 49.5
10	12	30 46	10 5.5	10	11 $\frac{1}{2}$	50 15	9 59.6*
8	10 $\frac{1}{2}$	10 31 3	+14 18.2*	10	10	10 50 46	+9 56.4

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
10	9 $\frac{1}{2}$	<sup>h. m. s.</sup> 10 50 55	+ 10 3.1*	10	9	<sup>h. m. s.</sup> 11 1 32	+ 9 54.1
10	12	52 7	9 58.3	18	11	1 32	1 54.7
10	11 $\frac{1}{2}$	52 12	9 56.0	19	11 $\frac{1}{2}$	2 2	2 29.0
10	11	53 42	10 5.3	10	9 $\frac{1}{2}$	2 20	9 55.1
10	11	53 50	9 56.4	18	10	2 59	2 6.9
10	11	53 51	9 57.5	19	10 $\frac{1}{2}$	3 4	2 26.5
10	9 $\frac{1}{2}$	54 37	10 9.4	19	11	3 6	2 15.8
10	9 $\frac{1}{2}$	55 10	9 56.1	18	10 $\frac{1}{2}$	3 15	1 58.9
10	12 $\frac{1}{2}$	56 16	10 8.0	19	9 $\frac{1}{2}$	3 16	2 19.8
10	12 $\frac{1}{2}$	56 22	10 4.7	18	10	3 17	2 7.9
19	10	56 22	2 35.9	18	12	3 37	2 8.8
19	12	56 23	2 20.0	19	11 $\frac{1}{2}$	4 6	2 15.7
19	10	56 40	2 31.5	19	11 $\frac{1}{2}$	4 23	2 20.7
10	10 $\frac{1}{2}$	57 21	9 52.6	19	11 $\frac{1}{2}$	4 30	2 27.9
19	10 $\frac{1}{2}$	57 38	2 29.6	18	10 $\frac{1}{2}$	4 35	2 18.0
19	11	57 39	2 20.8	19	9	5 6	2 21.1:
19	10	57 46	2 15.2	18	10 $\frac{1}{2}$	5 9	2 4.7
19	10	57 59	2 26.9	18	11 $\frac{1}{2}$	5 35	2 5.9
10	9 $\frac{1}{2}$	58 1	9 57.7	18	11 $\frac{1}{2}$	5 55	2 2.5
10	9 $\frac{1}{2}$	58 12	9 57.1	18	10 $\frac{1}{2}$	6 5	1 56.9
19	9	58 22	2 29.5	18	11 $\frac{1}{2}$	6 12	2 3.2
19	11	58 27	2 24.6	18	9	6 32	1 53.3
10	8 $\frac{1}{2}$	58 30	10 12.0	18	11	6 37	1 52.1
19	11	58 42	2 27.2	19	11 $\frac{1}{2}$	7 17	2 19.5
19	12	58 48	2 25.7	19	11 $\frac{1}{2}$	7 25	2 15.3
10	9 $\frac{1}{2}$	59 13	9 53.7	18	12	7 30	2 8.2
18	11	59 37	2 0.9	19	12	7 36	2 16.6
18	9 $\frac{1}{2}$	10 59 48	2 3.0	18	10	7 50	2 6.0
19	11	11 0 23	2 20.3	18	11 $\frac{1}{2}$	8 11	1 52.7
18	10	0 49	2 6.5	19	9	8 19	2 18.0
19	9 $\frac{1}{2}$	0 49	2 21.1	19	9 $\frac{1}{2}$	8 33	2 14.3
18	10 $\frac{1}{2}$	0 59	1 54.4	18	11 $\frac{1}{2}$	8 58	1 53.2
10	12	1 1	9 51.9	19	11	9 7	2 16.3
10	12	1 18	9 55.3	18	11 $\frac{1}{2}$	9 13	1 55.9
10	10	11 1 31	+ 9 52.9	18	9	11 9 54	+ 1 50.3

Days, Obs.	Mag.	$\alpha$ .	$\delta$ .	Days, Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
19	12	11 10 2	+2 21.3	19	11	11 20 12	+2 22.5
18	10 $\frac{1}{2}$	10 11	1 54.0	18	11 $\frac{1}{2}$	20 21	2 6.3
19	12	10 19	2 33.8	19	12	20 49	2 31.0
18	11	10 54	2 7.3	19	12	21 0	2 22.7†
18	10	11 19	2 2.0	18	10 $\frac{1}{2}$	21 17	1 54.7:
19	11	11 24	2 27.5	19	12 $\frac{1}{2}$	21 52	2 18.4
19	10 $\frac{1}{2}$	11 25	2 31.3	19	12 $\frac{1}{2}$	21 54	2 18.8
18	10 $\frac{1}{2}$	11 39	2 6.4	19	11	22 53	2 32.4
19	10 $\frac{1}{2}$	12 1	2 14.6	18	11	22 59	1 50.5
18	9	12 14	1 50.2	19	11	23 1	2 25.7
18	11	12 31	2 3.5	19	11	23 26	2 29.9
18	12	12 35	1 53.1	18	10 $\frac{1}{2}$	23 33	1 53.8:
19	11	12 38	2 17.0	18	11	23 50	1 52.7
19	11	12 47	2 31.8	18	11	23 56	1 55.1
19	9	12 53	2 23.2:	18	11	24 8	2 5.5
19	11	13 9	2 33.0*	18	11	24 46	1 50.7
18	11	13 14	2 6.1	19	11	24 48	2 15.6
19	11	13 53	2 28.1	19	12	24 49	2 18.6
19	12	14 23	2 18.5	19	11	25 1	2 15.8
19	12	14 40	2 16.0	18	11 $\frac{1}{2}$	25 13	1 50.9
19	12	14 44	2 17.8	19	9 $\frac{1}{2}$	25 30	2 19.7
19	11 $\frac{1}{2}$	15 47	2 20.4	19	10	26 7	2 16.0
19	11 $\frac{1}{2}$	15 54	2 16.7	18	10 $\frac{1}{2}$	26 17	1 55.3
19	11	16 26	2 19.5	18	11	26 55	2 2.7
18	11	16 27	1 54.3	18	11	26 55	2 6.6
18	12	16 40	1 57.0	19	9	27 3	2 19.5
18	11 $\frac{1}{2}$	17 33	2 3.7	19	10	27 8	2 31.2
19	12 $\frac{1}{2}$	17 34	2 14.8	19	10 $\frac{1}{2}$	27 17	2 25.1†
19	12	18 10	2 29.9	18	10 $\frac{1}{2}$	27 43	1 59.1
19	11	18 24	2 28.3	19	10 $\frac{1}{2}$	28 1	2 29.1
19	9 $\frac{1}{2}$	18 34	2 32.0†	18	9	28 4	2 1.2†
19	11 $\frac{1}{2}$	18 37	2 29.0	18	11 $\frac{1}{2}$	28 12	1 57.1
18	10	19 13	2 6.8	19	11 $\frac{1}{2}$	28 56	2 32.6
19	10	19 20	2 19.8	18	12	29 4	1 58.6
19	10	11 19 38	+2 17.1	18	12	11 29 28	+2 4.9

\* N. of double.

† L. of double.

‡ (4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
19	12	<sup>h. m. s.</sup> 11 29 41	<sup>°</sup> +2 26.2	19	9½	<sup>h. m. s.</sup> 11 39 28	<sup>°</sup> +2 20.6
19	11	29 53	2 19.0	19	11	39 35	2 14.9
19	10	30 19	2 15.7	18	10	39 47	2 11.0
19	11	30 23	2 18.0	18	11	40 9	2 3.6
19	11½	30 30	2 25.2	19	11	40 27	2 28.6
18	12	30 41	1 52.3	19	11	40 31	2 26.6
18	12	30 47	1 59.7	19	10½	40 41	2 17.3
19	11½	30 54	2 14.8	18	11½	41 35	2 5.2
19	9	31 43	2 15.3	18	11½	41 39	1 58.2
19	9	31 47	2 32.5	18	10½	42 6	1 58.3
18	11½	32 18	2 2.9	18	11	42 6	1 51.3
18	11	32 30	2 4.4	19	9½	42 8	2 24.7*
19	11½	32 51	2 17.8	19	9½	42 8	2 16.7
19	9	33 3	2 22.6	19	12½	42 10	2 17.9
19	10	33 40	2 26.2	18	9	42 46	1 50.4
18	12	33 49	2 6.7	18	11	43 27	1 55.8
18	11½	33 59	1 53.4	19	10	43 30	2 24.6
19	10	34 8	2 23.4	18	11½	44 29	1 54.5
18	9	34 23	2 4.8	18	11½	44 53	1 53.3
18	11	34 48	1 54.4	19	10½	45 28	2 28.4
19	10½	34 58	2 15.4	19	12	45 35	2 26.1
18	11½	35 24	2 4.5	18	11	45 46	2 9.2
18	10½	35 27	1 53.5	18	8	45 55	1 54.5
19	10	36 18	2 26.3	18	9	46 28	1 49.0
18	11½	36 37	2 6.6	19	9	47 2	2 20.7
18	11½	36 50	1 57.7	18	10½	47 14	1 50.9
19	12	37 14	2 18.4	18	11	47 33	1 48.5
19	11	37 26	2 27.5	19	12	47 34	2 20.3
18	11	37 48	2 3.1	19	12	47 39	2 17.7
18	11	37 52	2 9.1	18	10	47 47	1 57.7
19	10	38 28	2 31.6	19	12	47 56	2 17.1
19	10	38 37	2 30.2	19	11½	48 28	2 14.3
18	11½	38 43	1 50.0	18	10	48 51	1 56.4
18	11½	39 6	2 8.9	19	11½	49 44	2 25.9
19	9½	11 39 13	+2 26.3	18	12	11 49 56	+1 56.8

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
19	11	<sup>h. m. s.</sup> 11 49 56	<sup>°</sup> +2 16.8	18	11	<sup>h. m. s.</sup> 12 0 18	<sup>°</sup> +1 57.2
18	11	50 7	1 55.0	18	10½	0 19	1 50.1
19	12	50 7	2 15.6	18	12	1 31	1 51.6
19	11½	50 23	2 17.4	18	9½	2 8	1 47.2
18	10½	50 24	1 59.8	18	11	2 9	1 56.1
19	10	50 43	2 15.2	18	10½	2 9	1 54.6
18	11	51 6	2 5.8	18	9½	2 23	2 1.8
19	9½	51 24	2 26.8	18	10	4 2	1 57.6
19	12	51 44	2 25.4	18	Neb.	5 12	2 8.1
19	12	51 59	2 31.2	18	10	5 17	2 9.4
18	11	52 21	2 4.0	18	9	5 45	1 59.8
18	9	52 56	2 9.0	18	11*	6 21	2 1.2
18	11½	53 4	2 0.7	18	10	6 36	1 54.8
18	9	53 20	2 3.9	18	11	7 26	1 51.3
19	11	53 22	2 35.0	18	10½	7 30	1 51.4
19	12	53 24	2 20.3	18	11	9 44	1 57.7
19	11½	53 31	2 21.2	18	9	9 54	1 55.2
19	11	54 3	2 13.9	18	11½	10 15	2 5.4
18	12	54 31	1 56.3	18	12	10 29	2 0.7
19	9½	54 55	2 27.5	18	11	11 7	1 56.1
18	11½	55 12	1 58.5	18	12	12 3	1 51.2
19	11½	55 17	2 16.8	18	11½	12 15	1 50.6
19	11	55 48	2 28.4	18	11	13 5	2 8.0
18	11	56 1	2 4.3	18	12	13 57	1 52.2
18	11	56 4	2 9.1	18	12	13 58	1 55.3
18	11½	56 13	1 58.1	18	12	14 0	2 1.7
18	11	56 19	2 3.6	18	9	14 22	1 52.7
19	12	56 28	2 20.1	18	10½	15 12	2 7.8
18	11	57 17	1 51.2	18	11	15 17	2 5.0
18	11	57 27	1 55.5	18	10½	15 49	1 54.0
18	12	57 51	2 7.7	18	11	16 51	2 4.5
18	12	58 44	1 52.7	18	10	17 11	2 1.1*
18	12	59 43	2 2.1	18	9	17 14	2 6.4
18	11	59 53	2 8.3	18	9½	17 55	2 8.1
18	12	11 59 54	+2 6.3	18	11	12 18 54	+1 58.0

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
18	10	<sup>h. m. s.</sup> 12 19 15	<sup>°</sup> +1 54.3	18	9	<sup>h. m. s.</sup> 12 23 36	<sup>°</sup> +1 57.2
18	12½	19 52	2 8.5	18	10	25 20	1 54.5
18	12½	19 59	2 8.8	18	10½	26 1	1 51.2
18	12	20 34	1 53.2	18	12	26 51	1 53.7
18	10	21 32	2 0.5*	18	10½	27 32	1 56.4
18	10	21 41	2 8.8	18	10½	27 41	1 54.4
18	11	21 42	1 56.8:	18	10½	28 7	1 55.7
18	10½	22 46	1 52.8	18	10	29 19	1 50.9
18	12½	22 50	1 50.9	18	11	29 33	1 57.5
18	9½	12 23 32 ,	+1 55.0	18	10½	12 29 58	+2 4.6

\* (4).

APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,  
OF  
1,853 STARS NEAR THE ECLIPTIC,  
OBSERVED IN APRIL, 1852, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
3	11½	<sup>h. m. s.</sup> 9 16 9	<sup>°</sup> +16 24.3	3	11½	<sup>h. m. s.</sup> 9 21 25	<sup>°</sup> +16 23.2
3	12	16 47	16 25.9	3	11	22 18	16 18.4
3	11	17 59	16 18.6	3	11	23 27	16 25.9
3	10	18 3	16 21.6	3	11½	25 42	16 11.9
3	10½	19 7	16 29.7	9	10	26 41	9 22.4
3	9	19 22	16 23.6	9	10	26 54	9 10.2
3	10	19 28	16 10.8	9	12	26 58	9 24.1
3	10½	19 40	16 13.0	3	11½	27 3	16 23.1
3	10½	20 23	16 28.3	3	11½	27 29	16 28.8
3	11	9 21 6	+16 26.1	3	11½	9 27 41	+16 21.1



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
9	10½	9 27 42	+9 13.0	10	11	9 35 52	+11 34.5
9	9	28 19	9 28.0	9	11	35 55	9 17.3
10	10	28 39	11 34.1	3	12	36 9	16 14.7
9	9½	28 51	9 24.9	9	11	36 37	9 26.5
10	9½	29 29	11 47.0	10	11	36 41	11 36.7
10	11	29 59	11 43.8*	10	11½	37 1	11 32.1
9	9½	30 7	9 13.9	3	9	37 13	16 21.7
9	9½	30 23	9 21.8	3	11	37 23	16 26.6
3	11	30 24	16 28.4	10	12	37 35	11 36.0
9	9½	30 33	9 30.9	10	10½	37 40	11 54.0
10	11	30 39	11 35.2	9	10½	37 46	9 21.3*
9	10	30 54	9 31.8	3	9½	38 8	16 21.5*
3	10½	30 54	16 14.6	10	9½	38 55	11 43.3
10	9½	30 56	11 48.5	3	9½	38 57	16 24.3
9	11½	31 51	9 13.8	10	10	38 57	11 38.0
10	12	31 51	11 37.6	9	11	39 18	9 14.8
3	10½	32 5	16 15.7	10	10½	39 27	11 41.1
9	8	32 12	9 24.9	9	12	39 37	9 15.4
9	10	32 22	9 17.3†	10	10	39 45	11 49.5
10	11	32 52	11 41.0	10	12	39 48	11 48.5
3	11	32 54	16 28.7	10	10½	39 49	11 47.6
10	12½	32 55	11 46.2	9	11	39 59	9 15.2
10	11	32 59	11 51.3	9	11½	40 18	9 31.0
10	12	33 0	11 47.4	9	11½	40 36	9 32.0
10	11	33 3	11 41.1	3	11	40 38	16 25.7
9	11	33 24	9 16.9	3	8½	40 43	16 15.6
3	10½	33 39	16 23.7	10	12	41 6	11 30.6
9	12½	33 50	9 30.4	10	12	41 24	11 35.2
10	12	34 18	11 36.5	10	11½	41 38	11 36.4
9	11	34 43	9 27.9	3	10½	41 41	16 25.2
9	12½	34 43	9 29.0	9	10½	41 44	9 13.6
10	12	34 43	11 50.1	9	11	41 48	9 26.3
10	12	34 46	11 52.1	3	10	41 53	16 12.0
10	11½	34 48	11 40.9	10	10½	41 56	11 44.6
10	11	9 35 27	+11 51.6	3	11	9 42 17	+16 22.3

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	°			h. m. s.	°
9	10	9 42 33	+9 32.8	9	9½	9 48 49	+9 27.8
9	10½	42 38	9 28.0	9	10½	48 50	9 19.6
9	11	43 15	9 15.4	3	11	49 19	16 21.6*
10	12	43 46	11 38.6	10	12	49 36	11 37.7
10	11	43 48	11 35.3	3	11	49 37	16 22.2
9	9½	43 54	9 17.4	3	10½	49 45	16 29.5
9	11	44 3	9 11.1	10	12	49 58	11 38.7
3	10½	44 11	16 13.3	9	9	50 15	9 13.7
10	12	44 24	11 41.8	9	11	50 28	9 21.7
10	11	44 29	11 38.1	10	11	50 38	11 41.3
9	12½	44 54	9 27.2	9	11	50 39	9 12.1
9	12	45 26	9 26.9	10	10	50 42	11 44.0
10	10	45 22	11 34.8	9	10	51 25	9 27.7
10	9½	45 22	11 51.4	3	11	51 27	16 25.0
10	8	45 25	11 40.3	10	10	51 33	11 41.8*
10	11	45 26	11 44.6	9	11	51 34	9 27.9
9	9	45 28	9 23.9*	10	10	51 37	11 42.5
9	11½	45 33	9 27.7	9	11	51 44	9 17.2
3	11	45 50	16 26.2	9	11	51 51	9 16.0
9	9½	46 0	9 27.0	3	9	51 55	16 30.2
9	11	46 8	9 20.1	3	11	52 1	16 17.1
10	9½	46 15	11 40.6	9	10	52 22	9 21.1
9	11	46 32	9 21.7	10	10	52 25	11 37.8
9	11	46 38	9 12.1	9	12	52 41	9 28.8
10	9½	46 42	11 48.8	9	12	53 5	9 27.6
3	9	46 46	16 15.0	10	12	53 6	11 48.4
9	11½	46 49	9 24.5	3	10½	53 17	16 28.9
9	11	46 55	9 24.7	10	10	53 32	11 35.7
10	11½	47 0	11 48.6	9	12	53 38	9 28.9
10	12	47 24	11 46.0†	10	10½	54 1	11 43.4
10	11½	48 10	11 43.8	10	10	54 4	11 38.9
10	12½	48 14	11 48.1	10	10	54 12	11 44.6
9	10½	48 34	9 27.6	10	10	54 16	11 53.6
9	10	48 44	9 21.8*	9	12½	54 32	9 19.9†
10	11½	9 48 46	+11 45.1	9	12	9 54 37	+9 14.9

\* (4).

† L. of double.

‡ S. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
10	10½	<sup>h. m. s.</sup> 9 54 39	<sup>°</sup> +11 47.7	9	12	<sup>h. m. s.</sup> 10 0 55	<sup>°</sup> +9 18.0
3	10½	55 42	16 23.1	9	11½	1 21	9 14.4
*9	12	55 47	9 29.6	9	12	1 29	9 17.7
9	12	55 49	9 17.3	3	9½	1 36	16 18.6*
9	9	56 8	9 29.1	6	12½	1 41	9 8.2
10	11½	56 14	11 37.0	9	12	2 37	9 14.0
6	11	56 16	9 6.6	10	10	2 38	11 38.1
9	11½	56 17	9 20.6	6	12	2 42	8 57.1
10	11	56 55	11 49.5	6	12	2 50	8 57.2
3	11	57 15	16 18.8*	10	11½	2 56	11 46.1
3	11½	57 21	16 17.2	6	11	3 45	8 53.3
9	10	57 21	9 25.0†	10	9½	3 53	11 38.6
10	10	57 28	11 52.9	10	11½	3 58	11 33.6
.6	11	57 31	9 4.8	6	10½	4 2	8 55.4
10	10	57 38	11 39.0	10	11	4 14	11 37.0
9	10	57 53	9 14.0	6	10	4 46	8 58.4
9	12	58 1	9 19.0	10	11½	4 50	11 36.4
6	10	58 4	9 0.3*	6	12	4 52	8 57.5
9	9½	58 10	9 14.9	6	12	5 9	8 58.3
10	12	58 15	11 40.9‡	6	10½	5 17	9 7.3
6	11½	58 16	8 57.5	6	11	5 21	9 4.9
10	12½	58 36	11 37.2	9	12	5 24	9 14.4
9	8	58 37	9 17.3	6	9	5 44	9 9.1
6	10	58 49	9 5.8	10	9	6 7	11 50.0
10	9½	59 7	11 47.8	6	12	6 21	9 9.6
9	12½	59 8	9 25.2§	10	10	6 31	11 30.7
9	11	59 17	9 15.0	6	12½	6 44	9 7.4
6	11	59 36	8 59.2	10	11	6 48	11 33.6
10	9	9 59 50	11 33.9	6	12	6 58	9 6.2
9	9	10 0 4	9 14.3	10	11	7 14	11 53.8
3	10	0 9	16 28.2	6	11½	7 17	9 0.2
10	11½	0 15	11 40.8	10	12½	8 40	11 48.5
3	10	0 21	16 14.1	10	12	8 53	11 47.6
3	10	0 38	16 25.1	6	12	8 55	9 8.2
6	11½	10 0 44	+8 56.9	6	12	10 9 0	+8 58.2

\* (4).

† An. 11½ Mag. p.

‡ A. 12th Mag. p.

§ L. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
10	12 $\frac{1}{2}$	10 9 0	+11 47.3	10	10 $\frac{1}{2}$	10 17 58	+11 41.7
6	12	9 9	9 6.3	9	10	18 1	9 16.9
10	10 $\frac{1}{2}$	9 44	11 41.2	6	10 $\frac{1}{2}$	18 3	9 6.9
6	11 $\frac{1}{2}$	9 53	8 53.0	9	10 $\frac{1}{2}$	18 18	9 19.6
9	12	9 53	9 23.3	10	10	18 23	11 41.8
10	11	10 2	11 41.9	10	11 $\frac{1}{2}$	18 26	11 46.1
10	10 $\frac{1}{2}$	10 8	11 48.4	10	11	18 35	11 41.0
9	11 $\frac{1}{2}$	10 9	9 28.1	10	10 $\frac{1}{2}$	19 35	11 33.0
10	10	10 14	11 43.5	9	12	19 48	9 14.9
9	11	10 54	9 19.2	10	12	19 52	11 53.4†
6	9	11 15	9 3.4*	10	10 $\frac{1}{2}$	21 6	11 48.0
6	11	11 25	9 6.6	6	11 $\frac{1}{2}$	21 10	9 4.3
6	11	11 37	8 58.5	10	12 $\frac{1}{2}$	21 46	11 45.0
10	11	11 38	11 37.6	10	11	21 51	11 45.1
6	9	12 1	8 59.6	10	11 $\frac{1}{2}$	22 23	11 46.2
6	12	12 18	9 3.6	10	10 $\frac{1}{2}$	23 7	11 39.0
10	10	12 29	11 52.9	12	12	23 19	6 47.6†
9	12	12 42	9 28.8	12	12	23 37	6 37.1
10	10	13 36	11 41.4	12	12	23 50	6 49.8
10	11	13 37	11 50.3	10	11	24 4	11 50.4
6	11 $\frac{1}{2}$	13 54	8 58.1	8	10 $\frac{1}{2}$	24 5	5 0.2
10	9	13 56	11 43.0	15	12	24 28	4 50.3
10	11	14 0	11 50.0	12	10 $\frac{1}{2}$	24 38	6 36.7
9	10	14 6	9 30.0	10	10 $\frac{1}{2}$	24 43	11 37.2
6	11 $\frac{1}{2}$	14 13	9 3.9*	6	10 $\frac{1}{2}$	24 55	8 55.5
6	12	14 27	9 3.5	15	10 $\frac{1}{2}$	24 59	4 49.6
6	12	14 38	9 3.4	10	12 $\frac{1}{2}$	25 0	11 35.7
10	11	14 51	11 41.2	12	12 $\frac{1}{2}$	25 3	6 46.4
6	11 $\frac{1}{2}$	14 55	9 0.8	6	12	25 5	8 55.5
10	11	15 40	11 40.8	15	11	25 13	4 42.6
6	10 $\frac{1}{2}$	16 27	9 7.1	8	10 $\frac{1}{2}$	25 15	4 58.2
10	11	16 47	11 33.5	15	12	25 17	4 44.3
6	10 $\frac{1}{2}$	16 57	9 7.7	12	11 $\frac{1}{2}$	25 22	6 34.4
9	10 $\frac{1}{2}$	17 2	9 31.6	10	11	25 23	11 35.0
10	11 $\frac{1}{2}$	10 17 18	+11 38.4	12	12	10 25 34	+6 39.2

\* (4).

† Double.

‡ A small star p.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
12	9 <sup>*</sup>	10 25 35	+6 39.7	12	10	10 28 13	+6 36.2
8	9½	25 36	5 9.4	8	11	28 20	4 54.6
15	10	25 37	4 35.8	6	10½	28 28	9 0.7†
9	11	25 44	9 13.2	12	11½	28 33	6 49.6
15	11	25 46	4 36.8	12	11½	28 35	6 49.7
15	10	25 53	4 50.4	15	8	28 54	4 43.5
10	12½	25 58	11 34.6	9	11	28 56	9 21.3
6	12	26 7	9 4.3	9	12½	28 56	9 27.0
14	10½	26 16	5 36.5	14	12	28 59	5 36.7
16	11	26 21	5 10.4	16	9½	29 0	5 16.0
14	12	26 22	5 52.7	16	10	29 7	5 20.3
8	12	26 26	4 55.4	6	11 <sup>*</sup>	29 13	8 56.6
14	11½	26 29	5 39.8	10	11	29 17	11 48.0
8	9	26 31	4 53.0	12	12½	29 19	6 35.4
12	11½	26 33	6 32.9	16	10	29 21	5 14.8
15	11	26 37	4 37.9*	12	12	29 23	6 37.1
12	12	26 45	6 37.3	14	12	29 25	5 36.9
10	12	26 49	11 46.4	15	12	29 30	4 37.6
8	11	26 57	4 52.1	10	11	29 37	11 50.2†
16	9	27 2	5 24.5	15	11½	29 37	4 38.1
10	11	27 10	11 39.6	14	12½	29 42	5 45.7
15	9½	27 12	4 35.6	8	9½	29 49	5 7.0
16	11	27 15	5 14.2	12	12	29 53	6 40.2
15	10½	27 24	4 37.1	6	12	29 54	9 14.3
10	10½	27 25	11 39.8	16	10½	29 57	5 29.0
16	11	27 29	5 22.2	8	12½	30 3	5 5.0
12	9	27 30	6 35.0	10	10	30 9	11 30.6:
12	10½	27 35	6 37.6	16	8½	30 13	5 13.3
8	10½	27 42	4 52.6	6 9	11½	30 15	9 13.1
15	11	27 42	4 31.6	9	10	30 24	9 25.0
12	12½	27 44	6 37.7	8	10½	30 30	5 2.8†
12	12	27 57	6 35.9	16	9	30 30	5 28.1
16	11	28 3	5 16.3	15	11	30 35	4 46.4
8	11	28 6	5 4.9	8 15	8½	30 41	4 53.2
8	10½	10 28 11	+5 4.8	14	11½	10 30 51	+5 46.2

\* L. of double.

† (4).

‡ Suspect to be double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
15	12	<sup>h. m. s.</sup> 10 30 57	<sup>°</sup> +4 33.7	6	12	<sup>h. m. s.</sup> 10 33 32	<sup>°</sup> +9 9.6
16	11	30 57	5 14.8	15	12	33 31	4 32.3
16	10½	31 0	5 20.1	6	12	33 36	9 8.6
10	11½	31 1	11 35.3	9	10½	33 43	9 30.9
10	10½	31 9	11 35.7	8	11	33 44	5 5.7
15	9½	31 10	4 38.5	6	12	33 49	9 9.3
15	8½	31 12	4 32.7	14	11½	33 51	5 44.0
12	10	31 13	6 40.3	14	11½	33 54	5 45.3
14	10	31 13	5 39.8	16	11	33 58	5 31.8
9	10½	31 20	9 31.7	14	11	33 59	5 31.9
8	10½	31 27	5 4.2	16	10½	33 59	5 28.2
14	10½	31 27	5 39.8	15	12	34 9	4 50.7
14	11	31 30	5 43.8	15	10	34 11	4 47.6
6	11½	31 51	8 57.6	14 16	10	34 12	5 34.3
8	11	31 59	5 4.2	9	10	34 19	9 26.4
14	11½	32 5	5 45.0	12	9½	34 30	6 50.6
10	11	32 6	11 40.8	16	11	34 35	5 14.0
14	12	32 14	5 32.5	15	10	34 36	4 33.2
8	10	32 15	5 8.0	10	11½	34 39	11 37.9
10	12½	32 15	11 48.8	10	11	34 40	11 47.8
14	9	32 15	5 35.4	8	10½	34 53	5 4.7
8	11	32 32	5 2.7*	16	9	34 57	5 33.2
8	10	32 32	4 54.9	9	10	35 8	9 35.3
15	9	32 35	4 50.1	15	10	35 17	4 47.5
12	10	32 48	6 40.5	12	9½	35 24	6 37.9
6	11	32 49	9 10.1	6	12	35 25	8 56.4
6	10½	32 50	9 9.2	14	12	35 25	5 37.9
16	10½	32 54	5 17.0	14	12	35 37	5 39.1
12	10½	32 59	6 37.1	15	11½	35 37	4 44.5
16	10½	33 0	5 15.1	8	7½	35 38	5 5.2
12	11	33 8	6 36.7	12	12	35 39	6 35.0
16	12	33 13	5 15.7	10	10½	35 46	11 33.1
14	12	33 16	5 45.9	8	8½	35 50	5 1.9
12	10½	33 18	6 38.9	10	11	35 50	11 39.7
10	11	10 33 21	+11 46.2	10	11	10 35 57	+11 39.7

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h.	m.	s.	$^{\circ}$			h.	m.	s.	$^{\circ}$
9	II	10	36	3	+9 25.9	16	II	10	39	15	+5 18.2
15	II		36	13	4 33.8	14	9		39	17	5 48.1
12	IO		36	22	6 47.6	10	IO $\frac{1}{2}$		39	18	11 50.8
6	II $\frac{1}{2}$		36	31	8 58.2	16	IO		39	21	5 26.8
12	9 $\frac{1}{2}$		36	31	6 40.4	14	II		39	29	5 32.7
14	12		36	35	5 35.2	15	II		39	34	4 35.7
16	12		36	46	5 19.0	10	12		39	36	11 51.3
14	12 $\frac{1}{2}$		36	50	5 34.8	15	12 $\frac{1}{2}$		39	44	4 35.0†
15	12		36	51	4 37.7	8	12 $\frac{1}{2}$		39	47	5 3.8
6	II $\frac{1}{2}$		36	55	9 2.7	8	12		39	47	5 8.7
10	12		37	10	11 46.3	16	IO		39	52	5 28.1
14	II $\frac{1}{2}$		37	18	5 38.8	12	9		40	0	6 30.2
8	12		37	19	5 8.2	12	12		40	5	6 39.6
14	9 $\frac{1}{2}$		37	21	5 35.7	6	IO		40	6	9 8.9
14 16	9 $\frac{1}{2}$		37	23	5 33.0	15	IO $\frac{1}{2}$		40	11	4 44.0
16	12		37	29	5 24.1	10	II $\frac{1}{2}$		40	13	11 48.8
15	IO		37	31	4 40.2	9	II		40	15	9 19.0
10	II		37	39	11 48.0:	9	II		40	15	9 10.7
8	12		37	42	4 55.6	16	IO $\frac{1}{2}$		40	17	5 18.3
15	II $\frac{1}{2}$		37	42	4 44.6	15	IO		40	22	4 47.7
12	II		38	2	6 41.7	10	IO		40	31	11 53.8
8	12		38	9	4 56.7	14	IO		40	35	5 45.7
16	IO $\frac{1}{2}$		38	9	5 29.2	12	II $\frac{1}{2}$		40	40	6 38.1
12	12 $\frac{1}{2}$		38	16	6 35.6	14	II		40	41	5 32.7
15	IO		38	23	4 37.0	16	IO $\frac{1}{2}$		40	53	5 28.8
15	II $\frac{1}{2}$		38	23	4 31.5	14	IO $\frac{1}{2}$		40	59	5 33.3
12	12 $\frac{1}{2}$		38	24	6 39.4	16	II		40	59	5 28.9
8	II $\frac{1}{2}$		38	26	4 58.6	14	IO $\frac{1}{2}$		41	1	5 44.6
8	IO		38	35	5 8.6	14	IO $\frac{1}{2}$		41	4	5 42.3
10	II $\frac{1}{2}$		38	41	11 37.7	8	II		41	9	5 5.7
14	IO $\frac{1}{2}$		38	48	5 43.2	9	II $\frac{1}{2}$		41	10	9 16.2
16	9		38	55	5 14.4	12	IO $\frac{1}{2}$		41	10	6 34.1
15	II		39	4	4 32.0	8	II $\frac{1}{2}$		41	17	5 6.6
14	II $\frac{1}{2}$		39	8	5 36.5	10	II		41	17	11 30.4
14	IO $\frac{1}{2}$	10	39	9	+5 42.8*	16	II	10	41	17	+5 26.9

\* (4.)

† Double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	°			h. m. s.	°
15	II	10 41 30	+4 38.4	10	12	10 44 23	+11 34.9
12	9	41 33	6 43.6*	15	7½	44 31	4 33.6
12	10	41 34	6 37.7	15	10½	44 33	4 50.0
8	9½	41 40	4 59.0	12	II	44 38	6 34.0
15	II	41 40	4 39.7	16	9	44 45	5 30.7
8	II	41 42	4 53.6	14	II	44 52	5 49.8
12	10	41 50	6 47.3†	14	12½	44 53	5 37.9
8	10½	41 51	4 53.2	12	11½	44 55	6 36.6
10	10½	41 57	11 47.0	8	9½	44 59	5 2.7
14	12	42 2	5 32.8	12	II	45 3	6 34.0
15	10½	42 4	4 40.3*	10	II	45 6	11 48.0
16	II	42 4	5 16.3	16	II	45 13	5 25.6
14	12	42 7	5 35.3†	10	11½	45 14	11 49.1
16	II	42 9	5 16.2	10	II	45 17	11 46.4
14	9	42 13	5 37.8	16	10	45 17	5 16.6
9	11½	42 21	9 30.5	15	9½	45 25	4 46.4
8	9	42 34	5 6.7	15	9	45 28	4 40.3§
14	12½	42 36	5 34.8	16	II	45 35	5 16.7
12	9½	42 40	6 33.9	16	10½	45 36	5 17.5
16	8½	42 43	5 20.6	8	10½	45 38	5 3.0
16	II	42 46	5 12.7	10	II	45 59	11 48.7
10	10½	43 0	11 33.8	8 15	9½	46 0	4 48.9
14	II	43 2	5 33.4	15	11½	46 10	4 39.8
16	II	43 9	5 17.6	15	10½	46 11	4 37.5
8	12½	43 25	5 10.1	12	II	46 24	6 39.4
15	10	43 27	4 32.5	12	II	46 25	6 37.1
9	10	43 43	9 20.0	14	11½	46 36	5 35.2
12	10½	43 48	6 38.3	12	11½	46 37	6 46.3
10	12	43 56	11 35.5	16	10½	46 47	5 13.3
16	11½	43 57	5 13.3	16	10½	47 0	5 16.1
12	11½	44 5	6 51.2	8	10	47 1	5 10.8
12	II	44 6	6 49.6	8	9½	47 2	4 55.5
14	II	44 6	5 52.6	14	12	47 8	5 45.6
8	10½	44 11	4 54.6	10	11½	47 14	11 35.2
10	II	10 44 14	+11 35.3	14	9	10 47 20	+5 46.0

\* (4).

† L. of 3.

‡ S. f. of double.

§ Preceding a double.



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	+ ° ' "			h. m. s.	+ ° ' "
10	10½	10 47 22	+11 35.3	8	10½	10 49 56	+5 2.3*
15	11	47 22	4 32.6	16	9	50 3	5 31.5
9	10	47 29	9 20.4*	12	12	50 10	6 50.0
10	11½	47 34	11 36.4†	12	11½	50 13	6 47.7
16	12	47 45	5 16.3	14	11½	50 14	5 51.0
14	11	47 46	5 37.0	15	9½	50 15	4 45.1
15	11	47 46	4 40.4	10	11½	50 20	11 36.1
14	11½	47 51	5 34.9	10	11	50 24	11 35.2
16	12	48 2	5 13.1	9	12	50 27	9 14.4
12	11½	48 4	6 47.8	16	11	50 27	5 27.5
12	12½	48 11	6 49.6	12	10½	50 38	6 48.8
8	10	48 13	4 57.1	16	9	50 38	5 21.5*
14	10	48 15	5 40.6	16	12	50 39	5 28.2
8	10	48 17	5 1.5	9	11	50 41	9 14.9
14	11½	48 17	5 45.6	14	10	50 45	5 37.8
8	10	48 20	5 6.6	16	11½	50 48	5 26.4
8	10½	48 21	5 6.2	8	9½	51 6	4 51.2
16	10	48 21	5 13.7	15	11	51 8	4 34.9
15	11	48 33	4 39.4	10	10½	51 11	11 33.4
10	11	49 6	11 46.2	9	11	51 14	9 31.1
9	10	49 8	9 29.5	15	10½	51 14	4 48.3
9	11	49 15	9 29.3	14	12	51 16	5 38.3
15	11½	49 16	4 37.2	14	12	51 17	5 43.6
12	11½	49 22	6 49.3	8	9½	51 20	4 54.4
16	10½	49 22	5 15.8	14	11	51 34	5 41.4
10	11	49 24	11 39.8	10	10½	51 38	11 51.9
10	11	49 24	11 36.6	15	10	51 39	4 46.4
16	11	49 24	5 16.2	15	10	51 47	4 44.7
14	12½	49 30	5 33.1	10	11½	51 48	11 48.4
12	9	49 33	6 50.2	16	11	51 49	5 14.2:
12	11½	49 38	6 51.8	6	12½	51 54	8 59.3
6	12	49 41	8 57.7	9	12	52 1	9 28.9
14	12½	49 42	5 34.4	15	12	52 11	4 44.9
8	12½	49 45	5 8.6	6	12	52 12	8 54.2
15	11½	10 49 48	+4 32.6	9	12	10 52 13	+9 27.8

Days.Obs.	Mag.	$\alpha$ .	$\delta$ .	Days.Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
12	12	10 52 17	+6 37.2	10	11	10 55 23	+11 46.6
16	10	52 25	5 14.3	10	10 $\frac{1}{2}$	55 3	11 33.7
6	12	52 27	8 54.3	14	11 $\frac{1}{2}$	55 8	5 45.0
8	9	52 30	5 9.5	14	11	55 15	5 48.2
14	11 $\frac{1}{2}$	52 30	5 35.3	16	10	55 15	5 16.4
16	10 $\frac{1}{2}$	52 35	5 19.0	8	11 $\frac{1}{2}$	55 17	5 7.3
8	11	52 36	5 6.5	12	10 $\frac{1}{2}$	55 20	6 35.8
10	12	52 39	11 51.8	15	11 $\frac{1}{2}$	55 22	4 50.0
16	10	52 40	5 16.6	15	10	55 23	4 40.4
10	12	52 43	11 49.9	12	11	55 32	6 33.1
16	12	52 59	5 16.2	6 9	10 $\frac{1}{2}$	55 35	9 10.8
14	12	53 0	5 33.1	16	11	55 38	5 18.9
8	10 $\frac{1}{2}$	53 16	5 8.7	16	11	55 41	5 13.5
10	10 $\frac{1}{2}$	53 26	11 35.4	6	12	55 51	9 0.2
9	11 $\frac{1}{2}$	53 36	9 19.2	15	11	55 56	4 49.2
6	10 $\frac{1}{2}$	53 41	8 59.9	14 16	9	55 58	5 30.5
14	12	53 42	5 44.8	15	10	56 1	4 44.1
9	12 $\frac{1}{2}$	53 47	9 23.7	14	11	56 12	5 45.7
12	12	53 48	6 41.8	10	11	56 17	11 38.0
15	11 $\frac{1}{2}$	53 49	4 45.1	8	10	56 18	5 7.2
15	12 $\frac{1}{2}$	53 49	4 36.5	6	12	56 21	9 2.7
16	12 $\frac{1}{2}$	53 51	5 16.1	10	10 $\frac{1}{2}$	56 27	11 33.0
10	12	53 58	11 36.7	8 16	11	56 36	5 13.0
14	10 $\frac{1}{2}$	54 0	5 38.6	15	8 $\frac{1}{2}$	56 37	4 49.4
15	11	54 2	4 44.6	6	12	56 46	9 1.9
14	12	54 5	5 39.1	8	10	56 47	5 6.2
16	12	54 8	5 19.0	6	12	56 52	9 1.1
16	11 $\frac{1}{2}$	54 10	5 25.9	15	11	57 3	4 53.6
16	10	54 28	5 15.9	16	9	57 6	5 16.0
8	9 $\frac{1}{2}$	54 31	5 0.2*	16	12	57 10	5 18.3
15	11	54 34	4 37.8	14	11 $\frac{1}{2}$	57 13	5 46.5
16	10 $\frac{1}{2}$	54 46	5 18.8	12	11 $\frac{1}{2}$	57 42	6 33.5
6	11 $\frac{1}{2}$	54 49	8 59.3	15	9 $\frac{1}{2}$	57 47	4 43.1
14	9	*54 56	5 38.4	16	11	57 47	5 18.2
9	11	10 55 1	+9 31.9	14	8 $\frac{1}{2}$	10 57 49	+5 41.4

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.						h. m. s.			
8	12	10 58 2			+5 8.1	15	12	11 1 12			+4 39.4
10	11	58 6			11 35.0	15	12	1 12			4 36.4
14	9	58 8			5 47.9	10	11	1 18			11 40.4
10	11	58 9			11 40.2	8	11	1 22			5 4.6
8 15	9½	58 19			4 52.7	14	10	1 27			5 50.6
8	10½	58 20			5 7.1	15	10	1 35			4 45.1
9	11	58 25			9 20.8	10	10½	1 36			11 35.2
15	10	58 26			4 38.4	14	12	1 52			5 51.2
14	10	58 30			5 46.9	9	10½	1 57			9 16.7
14	11	58 54			5 49.7	15	6	2 10			4 31.3
8	9½	58 59			5 13.2	14	12	2 31			5 35.5
12	11	59 0			6 43.8*	8	11*	2 35			5 4.0
16	8	59 12			5 24.2	8	10	2 35			5 4.5
6	12	59 15			8 57.3	15	7	2 42			4 32.8
6	12	59 15			8 56.0	6	12	2 44			9 8.2
10	10	59 18			11 43.0†	15	9	2 45			4 40.1
12	12	59 19			6 36.6	6	12	2 51			9 10.4
8 16	9½	59 21			5 13.0	9	10	2 54			9 19.1
9	11	59 23			9 16.1	14	9	2 54			5 34.9
6	12	59 26			8 56.3	12	11	3 3			6 32.1
15	10	59 28			4 46.1	12	11	3 6			6 35.5
10	11	59 32			11 40.0	15	9	3 8			4 49.1
15	12	59 36			4 35.9‡	16	8½	3 29			5 24.7
14	9	59 47			5 40.0	12	10	3 37			6 46.4
16	11	59 47			5 31.0	14	11	3 50			5 46.7
15	9	10 59 57			4 31.8	8	10	3 51			5 3.6
8	11	11 0 10			4 55.9	8	9	3 53			4 52.9
12	12*	0 10			6 44.3	12	10	4 2			6 37.9
14	8	0 15			5 48.0	14	9	4 3			5 45.9
8	11	0 45			4 57.3	15	9	4 7			4 37.3
14	11	0 48			5 50.2	14	11	4 17			5 44.8
16	10	1 2			5 24.4	15	12½	4 23			4 34.4
16	11	1 5			5 28.4§	15	12	4 24			4 38.8
10	12	1 7			11 40.2	15	12	4 24			4 36.1
15	12	11 1 9			+4 32.7	8	10½	11 4 42			+4 52.2

\* (4). † Beautiful double. ‡ N. p. of double. § L. of double. || Small companion.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
12	10 $\frac{1}{2}$	11 4 52	+6 54.1	16	11	11 8 52	+5 19.3
16	12	4 57	5 18.2	16	8 $\frac{1}{2}$	9 0	5 29.3
15	10	5 2	4 34.9	15	9 $\frac{1}{2}$	9 6	4 48.1*
14	8 $\frac{1}{2}$	5 5	5 42.3*	14	11 $\frac{1}{2}$	9 7	5 33.1
14	9	5 7	5 46.4	15	9	9 10	4 46.4
14 16	8 $\frac{1}{2}$	5 16	5 30.1	6	12	9 11	9 4.9
8	12	5 26	5 7.0	15	9 $\frac{1}{2}$	9 19	4 35.7
8	10	5 50	5 7.8	12	12 $\frac{1}{2}$	9 23	6 49.1
6	11 $\frac{1}{2}$	6 3	9 5.9†	6	12	9 33	9 7.7
16	8 $\frac{1}{2}$	6 5	5 30.5	8	10 $\frac{1}{2}$	9 35	5 0.4*
6	12 $\frac{1}{2}$	6 7	9 1.1	15	10	9 39	4 38.7
15	12	6 12	4 36.5	8	11	9 42	5 9.9
15	10	6 13	4 41.6	16	9	9 42	5 25.5
12	12	6 15	6 38.4	16	Neb.	9 46	5 22.7
16	10 $\frac{1}{2}$	6 20	5 29.5	6	11	10 2	8 57.4
14	10	6 25	5 48.3	15	10	10 6	4 41.1‡
14	12	6 27	5 51.0	6	11	10 14	9 2.6
16	11	6 32	5 25.4	15	12 $\frac{1}{2}$	10 15	4 47.9
14	10	6 44	5 50.6	6	11 $\frac{1}{2}$	10 18	8 59.5
8	12	6 46	5 9.0	14	9	10 27	5 49.9
15	12	6 47	4 46.7	16	8 $\frac{1}{2}$	10 39	5 19.7
16	10 $\frac{1}{2}$	6 59	5 17.9	8	11	10 43	5 9.9
15	10	7 22	4 46.9	14	12	10 47	5 34.9
16	11	7 27	5 16.3	15	9	10 49	4 45.5
6	12	7 31	9 3.5	6	10	10 55	8 58.0
8	10	7 41	5 10.8	8	11 $\frac{1}{2}$	11 12	5 8.9
14	11	7 51	5 39.1	14	10 $\frac{1}{2}$	11 24	5 35.6
6	11	7 56	9 8.6	15	9	11 33	4 31.8
8	10 $\frac{1}{2}$	7 56	4 59.5	14	10	11 36	5 49.8§
12	12	7 58	6 35.2	15	11 $\frac{1}{2}$	11 37	4 47.8
16	8 $\frac{1}{2}$	8 0	5 30.5	8	10	11 42	4 54.1
16	11	8 14	5 20.3*	12	11	11 43	6 30.6
8	10	8 27	5 8.9	14	9	11 49	5 37.9
14	12	8 30	5 50.5	16	9	11 55	5 21.4
6	11 $\frac{1}{2}$	11 8 35	+8 59.7	6	11	11 12 3	+8 59.7

\* (4).

† A. 12th N. p.

‡ L. of double.

§ An. 11th S. p.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
6	12 $\frac{1}{2}$	<sup>h. m. s.</sup> 11 12 9	+8 59.5	6	9 $\frac{1}{2}$	<sup>h. m. s.</sup> 11 16 1	+9 10.7
16	9	12 10	5 17.5	6	11 $\frac{1}{2}$	16 7	9 3.9
6	11	12 17	9 13.1	14	11	16 9	5 53.2
15	12	12 19	4 38.8	6	11	16 12	9 7.3
8	12	12 28	5 8.8	14	12	16 13	5 43.4
16	8	12 36	5 29.7	15	12	16 14	4 32.2:
15	12	12 47	4 50.8	8	11	16 18	5 7.5
15	11	12 51	4 42.7*	8	10 $\frac{1}{2}$	16 26	4 56.4
8	10	12 56	5 12.9	15	11	16 33	4 32.4
14	12	12 57	5 41.4	16	12	17 14	5 19.2
8	10	13 10	5 11.0	16	9	17 21	5 25.0
15	11	13 10	4 39.8	15	9 $\frac{1}{2}$	17 26	4 35.2
14	12	13 19	5 46.1:	6	12	17 27	8 59.5
6	12	13 25	9 3.7	6	12	17 27	8 56.8
6	12 $\frac{1}{2}$	13 27	9 9.3	16	12 $\frac{1}{2}$	17 34	5 29.2
8	11	13 33	4 52.7	6	10	17 41	8 55.5
12	11 $\frac{1}{2}$	13 33	6 34.0	8	11	17 54	4 53.2
15	11	13 35	4 47.0	8	11 $\frac{1}{2}$	17 55	4 58.4
15	11	13 39	4 47.2	8 15	9	18 7	4 49.5
16	9	13 44	5 30.0	14	10	18 16	5 43.7
6	12	14 2	8 59.5	14	11 $\frac{1}{2}$	18 18	5 45.5
16	9 $\frac{1}{2}$	14 5	5 34.3	14	10 $\frac{1}{2}$	18 24	5 45.6
8	10	14 7	5 9.9	15	11	18 31	4 47.9
14	11	14 13	5 50.5	6	12	18 35	8 54.3
8	11 $\frac{1}{2}$	14 21	5 10.4	15	11	18 35	4 50.3:
14	10	14 35	5 50.1	6	10	18 45	8 55.2
6	11	14 42	8 54.4	16	9	19 18	5 21.3*
14	10	14 44	5 44.7	8	12	19 27	4 58.6
16	12	15 9	5 22.9	14 16	9 $\frac{1}{2}$	19 40	5 31.9
16	12	15 13	5 27.8	16	11 $\frac{1}{2}$	19 42	5 24.6
8 15	11	15 31	4 49.1	14	12 $\frac{1}{2}$	19 54	5 34.5
16	10 $\frac{1}{2}$	15 36	5 18.0	15	10	19 56	4 48.1
15	12 $\frac{1}{2}$	15 38	4 46.3	6	12 $\frac{1}{2}$	19 57	9 9.0
15	12 $\frac{1}{2}$	15 38	4 49.4	6	10 $\frac{1}{2}$	20 20	9 6.6
14	11	15 54	+5 40.0	6	10	11 20 23	+9 10.8

Days.Obs.	Mag.	$\alpha$ .	$\delta$ .	Days.Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
14	11 $\frac{1}{2}$	11 20 34	+5 42.4	15	12	11 23 56	+4 42.0
14	11	20 38	5 32.1	6	11 $\frac{1}{2}$	23 58	8 55.4
14	11	20 44	5 43.1	8	10	24 6	5 2.2
16	12	20 44	5 17.7	14	8 $\frac{1}{2}$	24 11	5 49.1
14	8	20 54	5 50.0	15	8 $\frac{1}{2}$	24 13	4 43.0
8	11	20 55	5 2.9*	16	9 $\frac{1}{2}$	24 41	5 28.4
15	9 $\frac{1}{2}$	20 55	4 37.0	8	10	24 47	4 58.4
15	8	20 57	4 39.9	16	10 $\frac{1}{2}$	24 54	5 27.1
6	10 $\frac{1}{2}$	21 6	9 7.0	16	11	24 55	5 23.2*
8	9	21 7	5 3.1	16	9	25 6	5 26.5
6	10	21 10	9 9.5	6	10 $\frac{1}{2}$	25 7	8 55.6
16	9 $\frac{1}{2}$	21 14	5 14.5	14	8 $\frac{1}{2}$	25 12	5 42.1
15	10	21 22	4 45.4	14	12	25 16	5 50.8
15	9	21 50	4 33.5	6	11	25 21	8 54.1
16	10	22 5	5 20.2	14	12	25 42	5 50.0
15	11	22 11	4 50.4	14	12 $\frac{1}{2}$	25 42	5 42.7
14	11 $\frac{1}{2}$	22 33	5 44.9	15	9 $\frac{1}{2}$	25 52	4 34.8
16	10 $\frac{1}{2}$	22 33	5 21.7	15	8 $\frac{1}{2}$	26 6	4 35.1
8	11 $\frac{1}{2}$	22 39	4 57.9	6	10	26 17	9 5.0
8	11 $\frac{1}{2}$	22 58	5 7.1::	8	12	26 22	4 58.1
16	12 $\frac{1}{2}$	23 0	5 29.8	8	11	26 24	4 59.9
16	12 $\frac{1}{2}$	23 9	5 27.6	8	11	26 31	4 53.0
15	11 $\frac{1}{2}$	23 10	4 35.3	16	12	26 46	5 17.1
14	10	23 15	5 44.0	6	10	27 2	8 55.5
6	12 $\frac{1}{2}$	23 24	9 3.8	14	12	27 18	5 32.0
15	9	23 25	4 32.3	15	11	27 22	4 46.2
8	10 $\frac{1}{2}$	23 26	5 2.2	16	11 $\frac{1}{2}$	27 36	5 23.5*
6	11 $\frac{1}{2}$	23 28	9 5.4	15	12	27 45	4 32.9
15	11 $\frac{1}{2}$	23 28	4 33.4	15	11 $\frac{1}{2}$	27 56	4 38.2
15	11 $\frac{1}{2}$	23 30	4 39.4*	16	12	27 58	5 26.7
14	11	23 32	5 37.0	8	11	28 2	5 9.3
14	8 $\frac{1}{2}$	23 36	5 53.0	14	12	28 3	5 38.3
16	10	23 36	5 12.6	6	11	28 8	8 53.0
6	11	23 50	9 7.7	8	12	28 8	5 10.7
14	12	11 23 52	+5 38.2	16	11 $\frac{1}{2}$	11 28 16	+5 23.7

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
15	9	11 28 20	+4 33.9	16	11	11 32 7	+5 15.0
6	12	28 33	8 53.5	6	11½	32 19	9 6.1
14 16	11	28 43	5 31.0	15	9	32 19	4 44.0
8	11	28 44	5 5.7	15	9	32 19	4 50.5
8	11	28 52	5 9.0	16	10	32 19	5 30.7
8	11½	28 58	5 10.4	6	11½	32 33	8 56.0
15	12½	29 3	4 30.8	16	8	32 37	5 12.6
8	10½	29 20	5 11.9	6	11½	32 46	9 6.5
6	10	29 24	8 59.9	15	9½	32 53	4 49.3
14	10	29 32	5 40.3*	6	11½	32 55	8 58.1
14	10	29 33	5 48.7	14	10	33 1	5 44.6
16	12	29 38	5 28.8	16	11*	33 17	5 23.1
14	9	29 47	5 45.8	8	12	33 19	5 6.0
8	12½	29 58	5 6.6	8	12	33 21	5 5.7
15	8	30 2	4 40.5*	15	10½	33 29	4 44.5
8	11	30 6	5 5.5	16	9½	33 33	5 29.8
15	12	30 11	4 34.3	15	10	33 35	4 48.1
16	9	30 27	5 25.8	8	12	33 43	4 56.4
15	8½	30 29	4 33.2	14	11	34 14	5 42.8
6	12	30 38	8 54.4	14	10	34 20	5 35.3
8	10	30 40	5 10.3	14	12	34 36	5 42.9
16	10	30 46	5 25.0	15	12	34 37	4 32.9
14	10½	30 55	5 50.0	15	10	34 54	4 35.3
14	11	31 14	5 41.4	14	10	34 56	5 52.5
15	11½	31 21	4 49.6	8	8	34 58	5 2.4
16	10	31 24	5 16.2	16	12	35 11	5 27.8
8	12	31 32	4 56.6	8	11½	35 31	4 56.7
14	11	31 33	5 48.2	16	9	35 40	5 12.9
8	10½	31 35	5 3.1	16	11½	35 50	5 19.4
14	12	31 37	5 48.2	16	12	35 55	5 19.8
16	11	31 49	5 17.9	16	11½	36 14	5 17.5
8	9	31 54	4 59.7*	8	9	36 17	4 56.6
15	11½	31 54	4 47.1:	8	8½	36 33	5 6.8
16	10	32 2	5 18.3	15	9½	36 50	4 42.6
8	10½	11 32 7	+4 56.6	14	12	11 36 59	+5 47.6

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
14	10 $\frac{1}{2}$	11 37 2	+5 47.9	14	12	11 42 49	+5 48.5
15	10 $\frac{1}{2}$	37 6	4 41.2	16	12	42 51	5 20.6
16	12	37 16	5 14.3	14	12	42 57	5 49.4
16	12 $\frac{1}{2}$	37 23	5 16.2	15	11	43 2	4 43.6
14	11	37 27	5 45.9	8	9	43 5	5 3.7
8	11 $\frac{1}{2}$	37 30	5 10.8	16	10	43 11	5 19.4
8	9	37 52	4 59.8	15	12	43 13	4 49.7
8	12	38 8	4 54.1	16	9	43 24	5 19.8
16	12	38 11	5 27.6	14	12	43 31	5 48.1
16	12 $\frac{1}{2}$	38 34	5 28.3	14	11 $\frac{1}{2}$	43 40	5 48.4
14	10	38 36	5 35.1	8	9 $\frac{1}{2}$	43 46	5 3.1†
8	11	38 38	4 59.0	8	12	43 46	5 5.9
16	12	38 58	5 27.8	14	12	43 47	5 48.6
8	11	39 11	4 58.4	16	10 $\frac{1}{2}$	43 49	5 21.0†
14	12	39 15	5 40.6	16	11	43 49	5 25.2
16	11	39 18	5 15.9	15	9	44 13	4 35.8
15	12	39 20	4 43.9	15	11 $\frac{1}{2}$	44 16	4 46.8
8	11	39 28	5 3.9	15	11 $\frac{1}{2}$	44 31	4 48.7
15	12 $\frac{1}{2}$	39 34	4 45.0	8	9 $\frac{1}{2}$	44 50	5 2.2
15	12	39 41	4 43.9	14	12	44 51	5 39.5
15	10 $\frac{1}{2}$	40 3	4 40.3	14	10 $\frac{1}{2}$	44 57	5 39.5
15	10 $\frac{1}{2}$	40 4	4 45.2	8	12	45 7	4 55.6
15	11:	40 10	4 43.5	8	12	45 10	4 51.2
16	9	40 25	5 25.7*	16	12	45 33	5 20.7
8	10	40 34	5 4.8	16	11	45 41	5 25.7
8	11	40 36	5 10.7	16	12	46 1	5 30.6
8	9 $\frac{1}{2}$	41 17	5 5.9	15	11	46 15	4 35.9
8	10 $\frac{1}{2}$	41 30	4 54.7	16	10 $\frac{1}{2}$	46 34	5 27.5
15	12	41 47	4 38.1	16	11	46 36	5 19.3
15	12	41 50	4 37.4	16	11	46 38	5 22.2
15	12	41 52	4 34.1	8	11	46 40	4 57.7
14	12	42 11	5 49.1	8	12	46 43	5 3.5
15	12	42 20	4 35.7	16	11 $\frac{1}{2}$	46 52	5 28.5
8	9	42 23	4 53.1	8	10	46 57	5 0.2†
8	10 $\frac{1}{2}$	11 42 46	+5 11.0	16	12	11 46 58	+5 30.3

\* L. of double.

† (4).



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	°			h. m. s.	°
15	9	11 47 0	+4 36.5	14	11	11 51 49	+5 33.6
14	10	47 2	5 35.5	16	10	52 9	5 23.8
15	9½	47 30	4 45.7	14	12½	52 35	5 33.4
15	11	47 45	4 38.8*	8	10	52 37	4 57.2
16	11½	47 54	5 13.1	14	9½	52 37	5 39.6
15	12	48 1	4 34.2	8	11	52 39	4 59.0
8	11	48 7	4 54.5	16	10	52 39	5 20.6
16	11	48 7	5 17.9	14	11½	52 59	5 34.0
16	10½	48 29	5 24.6	10	11	53 1	5 20.7
15	12	48 37	4 37.8	8	11½	53 7	4 58.3
16	10½	48 37	5 18.3	15	10½	53 11	4 34.7
16	11	48 41	5 15.6	15	12	53 22	4 36.3
8	10½	48 49	4 59.9	16	10½	53 32	5 30.8
15	10½	49 9	4 37.4	14	12	53 46	5 33.9
8	9	49 20	5 8.9†	16	11½	54 29	5 29.4
16	10	49 27	5 15.7	14	9	54 32	5 44.1§
15	9	49 50	4 45.4	8	11	54 34	5 6.6
15	10	50 9	4 33.9	8	11½	54 35	5 4.6
15	10½	50 14	4 43.7	16	12½	54 42	5 25.3
15	9	50 15	4 50.7	16	11	55 5	5 11.9¶
14 16	8½	50 23	5 34.5	7	10½	55 19	3 46.5
16	12	50 34	5 30.8	7	11	55 36	3 42.4‡
14	9	50 35	5 43.3	8	11	55 41	5 1.6
8	11	50 37	4 58.0	14	12	55 41	5 35.2
16	9	50 39	5 24.5†	14	12	55 48	5 33.5
16	12	50 49	5 25.8	7	10	56 11	3 46.4
14	10½	50 53	5 36.7	16	10	56 12	5 18.5
15	8	50 58	4 48.5	15	10	56 13	4 33.6
15	10½	51 2	4 42.7	16	10½	56 29	5 26.1§
8	10½	51 5	5 3.2	16	10	56 44	5 29.7
16	11	51 5	5 20.9	8	11	56 45	4 55.2
14	9½	51 11	5 49.5	16	8½	56 45	5 33.6
16	10½	51 22	5 20.8	8	11½	56 55	4 53.5
16	11½	51 33	5 24.2	15	12	56 58	4 47.2
15	11½	11 51 36	+4 34.1	8	12	11 57 1	+4 57.0

\* An. 11th p. † A. 12th close f. ‡ (4). § L. of double. || A. 12th f. ¶ Close double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
15	12	11 57 7	+4 44.1	14	9	11 59 54	+5 37.2
15	10	57 12	4 47.9	16	10	59 56	+5 28.1
15	10 $\frac{1}{2}$	57 15	+4 47.0	24	10 $\frac{1}{2}$	11 59 57	-2 43.6
9	11	57 21	-4 40.2	7	11	12 0 1	+3 52.9
7	11 $\frac{1}{2}$	57 32	+3 38.2	14	12	0 6	5 38.7
7	12	57 33	3 45.4	16	10 $\frac{1}{2}$	0 14	5 22.9*
8	12	57 33	4 56.2	7	10	0 19	+3 54.8
7	12	57 44	+3 53.2	9	12	0 19	-4 44.4
24	11	57 49	-2 44.4	16	11	0 26	+5 27.5
24	11 $\frac{1}{2}$	57 51	-2 47.2	15	10 $\frac{1}{2}$	0 28	4 44.2
8	11 $\frac{1}{2}$	57 52	+5 7.3	16	11 $\frac{1}{2}$	0 36	5 23.2*
7	11	57 56	3 45.6*	14	12 $\frac{1}{2}$	0 43	5 40.2*
14	12 $\frac{1}{2}$	57 59	5 44.2	15	8	0 46	+4 43.6
14	10	58 2	5 48.1†	24	8	0 48	-2 39.6*
14	12 $\frac{1}{2}$	58 3	5 43.7	7	11	0 49	+3 37.4
15	11	58 6	4 49.7	24	11	1 6	-2 46.3
8	11	58 14	+5 4.9	14	12	1 10	+5 37.5
9	11	58 31	-4 32.8	15	9	1 17	+4 37.5
14	12 $\frac{1}{2}$	58 32	+5 45.1	24	11	1 21	-2 42.1
24	11	58 33	-2 44.8	14	9	1 22	+5 37.5
9	10	58 38	-4 47.2	15	9 $\frac{1}{2}$	1 25	+4 46.0
7	11	58 40	+3 36.8	9	10 $\frac{1}{2}$	1 27	-4 31.2
24	10	58 41	-2 43.9	9	12 $\frac{1}{2}$	1 32	-4 33.0
8	11 $\frac{1}{2}$	58 50	+5 7.9	14	12	1 36	+5 37.5
8	11 $\frac{1}{2}$	58 56	5 4.8	7	12	1 44	+3 36.9
14	11	59 10	5 35.0	24	10 $\frac{1}{2}$	1 47	-2 40.3
15	12 $\frac{1}{2}$	59 12	+4 35.6	7	11 $\frac{1}{2}$	1 50	+3 38.8
24	8	59 14	-2 47.1	9	12	1 56	-4 29.8
7	9 $\frac{1}{2}$	59 17	+3 45.3	7	10 $\frac{1}{2}$	2 1	+3 49.2
15	11	59 25	4 48.4	15	11	2 8	4 49.5
9	11 $\frac{1}{2}$	59 32	4 47.1	14	10	2 9	5 42.7
15	12	59 37	4 35.3	15	10 $\frac{1}{2}$	2 11	4 42.4*
14	11	59 46	+5 42.4	7	9 $\frac{1}{2}$	2 13	3 38.1
9	11 $\frac{1}{2}$	59 51	-4 40.5*	7	11	2 23	3 42.4
9	10 $\frac{1}{2}$	11 59 53	-4 40.3*	16	12 $\frac{1}{2}$	12 2 28	+5 26.4

\* (4).

† A. 12th N. p.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
9	12 $\frac{1}{2}$	12 2 29	-4 37.8	9	10	12 5 47	-4 42.4
16	8	2 32	+5 9.5	7	11	6 7	+3 41.8
16	12 $\frac{1}{2}$	2 33	+5 20.1	24	10	6 38	-2 31.2
24	12	2 34	-2 34.2	24	12	6 40	2 40.7
24	12	2 54	2 34.7	9	9 $\frac{1}{2}$	6 43	4 33.2
24	9	2 55	2 47.4	24	12	6 49	-2 39.4†
24	11 $\frac{1}{2}$	3 2	-2 35.7	7	10	7 1	+3 50.8
16	9 $\frac{1}{2}$	3 3	+5 26.9	24	10 $\frac{1}{2}$	7 33	-2 43.0
15	11	3 11	4 41.8	7	12 $\frac{1}{2}$	7 35	+3 37.1
15	11	3 13	+4 45.9	9	12	7 39	-4 37.5
24	10 $\frac{1}{2}$	3 33	-2 33.5	9	12 $\frac{1}{2}$	8 14	4 34.4
16	10 $\frac{1}{2}$	3 34	+5 18.2	24	11	8 19	-2 41.7
15	10	3 40	4 40.2	7	11 $\frac{1}{2}$	8 23	+3 40.4
7	11	3 42	3 47.5	24	11 $\frac{1}{2}$	8 32	-2 43.3
14	11	3 46	5 35.2	9	10 $\frac{1}{2}$	8 36	4 31.9
14	11	3 49	5 37.5	24	11	8 39	2 36.8
7	10	4 4	+3 51.4	24	12	8 41	-2 44.2
9	10	4 10	-4 31.7	7	9 $\frac{1}{2}$	8 57	+3 49.0
7	10	4 13	+3 50.9	9	10 $\frac{1}{2}$	9 4	-4 30.8
9	11	4 13	-4 37.1	9	10	9 8	-4 44.6
24	10 $\frac{1}{2}$	4 21	-2 45.6	7	10	9 30	+3 44.8*
15	10 $\frac{1}{2}$	4 24	+4 48.5	9	11 $\frac{1}{2}$	9 37	-4 39.3
24	10 $\frac{1}{2}$	4 33	-2 35.2	7	11 $\frac{1}{2}$	9 48	+3 45.2
24	10	4 37	2 44.0	9	10	9 48	-4 29.9
24	10 $\frac{1}{2}$	4 59	-2 44.9	24	11	10 4	-2 32.9
7	12 $\frac{1}{2}$	5 2	+3 54.2	7	12	10 9	+3 40.4
15	11	5 2	+4 49.3	9	11 $\frac{1}{2}$	10 16	4 37.9
9	11 $\frac{1}{2}$	5 7	-4 42.2	7	12	10 22	+3 44.5
9	11	5 11	-4 41.8	24	11	10 28	-2 39.2*
15	11	5 11	+4 50.9	9	10 $\frac{1}{2}$	10 40	4 50.3
9	11	5 14	-4 42.9	24	9	11 1	2 46.2:
9	12	5 28	-4 42.2	9	12	11 24	-4 31.1
7	9	5 37	+3 51.7	7	10	11 26	+3 36.7
24	9	5 37	-2 32.8	7	12	11 27	+3 47.1:
24	10 $\frac{1}{2}$	12 5 40	+2 43.9	9	11 $\frac{1}{2}$	12 11 34	-4 30.5

\* (4).

† S. p. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
9	11½	12 11 51	-4 33.3	9	12	12 17 37	-4 49.7
9	9	12 5	4 31.4	7	10½	17 43	+3 52.8
9	9	12 10	4 34.1	24	11	17 46	-2 31.9*
24	11½	12 22	-2 44.6	9	12	17 57	4 45.3
7	12½	12 37	+3 48.8	24	12	17 58	2 29.4
7	12½	12 49	3 49.4	9	12	18 19	4 43.5
7	10½	12 51	+3 47.5	9	9½	19 5	4 51.4
24	11	12 51	-2 28.9	24	11	19 19	2 42.4
9	11½	12 52	4 28.2	9	11	19 58	-4 29.0
24	9½	13 8	-2 46.9	7	11½	20 5	+3 47.3
7	11	13 12	+3 46.1	9	11	20 24	-4 49.1
9	10	13 22	-4 47.7	7	11	20 33	+3 39.2
24	9½	13 45	2 42.4	9	11	20 34	-4 42.1
24	11½	13 53	-2 30.9	7	10½	20 36	+3 43.0*
7	12	14 2	+3 37.0	9	9½	20 50	-4 46.5
24	11	14 7	-2 32.6	9	11	21 4	4 36.2
24	11	14 15	-2 32.9	9	12	21 15	4 35.7
7	11	14 18	+3 50.9	9	10½	22 24	4 43.2
9	11	14 37	-4 47.9	9	9	22 25	-4 29.5
9	11	14 51	4 34.7	7	12	22 32	+3 38.1
24	10½	15 0	2 49.8	9	11	22 32	-4 34.3
24	11	15 10	2 36.7*	7	12	22 38	+3 39.4
9	10	15 12	4 38.1	9	9½	22 38	-4 31.2
24	10	15 21	-2 47.6	7	11	23 4	+3 52.0
7	10	15 41	+3 38.7	7	11	23 22	+3 34.5
9	11	15 46	-4 30.8	9	12	23 24	-4 35.0
7	12	15 48	+3 35.2	9	11½	23 28	-4 43.3
7	10	15 51	+3 41.2	7	11½	23 52	+3 35.4
9	11½	16 17	-4 37.3	9	12	24 24	-4 35.0
9	10	16 31	-4 39.1	9	11½	24 28	-4 43.3
7	12	16 38	+3 52.6	7	10	24 29	+3 46.9
24	9	16 50	-2 40.1	7	12	24 56	3 51.2
24	10	16 53	2 28.9	7	12	25 8	3 47.9
24	11	17 1	-2 44.9	7	10½	25 8	+3 36.9
7	10	12 17 19	+3 33.5	9	12	12 25 22	-4 48.3

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
9	12 $\frac{1}{2}$	12 26 4	-4 45.7	9	11	12 32 10	-4 34.4
9	10	26 18	4 44.5	7	11 $\frac{1}{2}$	32 22	+3 50.5
9	12 $\frac{1}{2}$	26 25	-4 47.5	24	11	32 43	-2 35.1
7	10 $\frac{1}{2}$	26 30	+3 45.1	24	11	32 48	-2 30.6
7	11	26 53	+3 46.6*	7	11	32 53	+3 55.0
9	11	27 20	-4 28.0	24	9 $\frac{1}{2}$	33 4	-2 33.3
9	12	27 23	4 44.8	16	11	33 11	6 35.9
9	10	27 42	4 29.9	24	10	33 27	2 35.9
9	11 $\frac{1}{2}$	28 1	4 49.7	9	12	33 32	4 46.2
9	12	28 28	4 33.5	16	12	33 34	6 37.0:
9	12 $\frac{1}{2}$	28 37	-4 34.8	16	11 $\frac{1}{2}$	33 43	-6 38.7
7	12 $\frac{1}{2}$	28 39	+3 39.0	7	12	33 54	+3 52.6
7	12 $\frac{1}{2}$	28 40	+3 41.4	16	11	33 54	-6 36.0
16	10	28 47	-6 41.8	24	10	33 54	-2 28.5
9	9 $\frac{1}{2}$	28 56	4 35.7	7	11 $\frac{1}{2}$	33 57	+3 36.6
9	12	29 4	-4 40.2	9	10	33 59	-4 51.8
7	11	29 10	+3 50.1	16	11	34 1	-6 36.9
16	10	29 10	-6 39.4†	7	10 $\frac{1}{2}$	34 18	+3 48.3
16	10	29 19	-6 43.1	9	11	34 25	-4 45.9
7	11	29 23	+3 52.2	24	12	34 25	2 31.9
9	11	29 36	-4 31.4	24	10 $\frac{1}{2}$	34 40	2 35.4
16	10	30 14	-6 39.5	9	10	34 46	4 37.3
7	11	30 21	+3 36.0	24	12	34 52	-2 32.1
9	11	30 22	-4 45.4	7	11 $\frac{1}{2}$	35 0	+3 50.4
9	11	30 36	-4 31.9	7	12	35 6	+3 52.4
7	10	30 40	+3 51.1	14	11 $\frac{1}{2}$	35 8	-3 26.2
9	11	30 49	-4 30.5	9	10 $\frac{1}{2}$	35 10	4 30.3
16	12	31 25	6 32.2	16	12	35 32	6 34.6
16	12	31 31	6 32.8	24	11	35 32	2 29.4
16	12	31 33	6 39.2	16	10	35 38	6 43.5
16	10 $\frac{1}{2}$	31 42	6 31.5	16	12	35 44	6 31.1
16	10 $\frac{1}{2}$	31 48	-6 31.6	24	10 $\frac{1}{2}$	35 48	2 41.4
7	12 $\frac{1}{2}$	31 50	+3 46.9	16	12	35 50	6 34.6
9	Neb.	31 56	-4 31.2	24	12	36 11	-2 32.7
7	11 $\frac{1}{2}$	12 31 59	+3 41.5	7	12	12 36 16	+3 50.1

\* L. of double.

† (4).

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		h. m. s.					h. m. s.		
24	10	12 36 17	—2	31.9	16	11	12 39 43	—6	49.2
7	10½	36 28	+3	47.2	7	12	39 44	+3	39.0
14	9	36 38	—3	30.5	9	12	39 51	—4	35.7
14	12½	36 41	3	22.7	14	12	39 51	3	11.0
14	11	36 44	3	23.9	24	10½	40 3	—2	39.2
9	10	36 55	4	29.0	7	11½	40 9	+3	48.6
24	11	37 1	2	30.7	16	10½	40 18	—6	43.8
16	12	37 9	6	45.6	24	Neb.	40 31	2	30.7
9	9	37 13	4	25.8	14	10	40 41	—3	10.2
24	12½	37 16	—2	33.8	7	11	40 47	+3	34.2
7	10½	37 23	+3	51.8	14	12	40 49	—3	22.6
7	Neb.	37 27	+3	52.5*	14	10½	41 12	3	10.6
14	9	37 30	—3	31.2	24	11	41 31	2	45.2
16	11	37 30	6	46.4	9	12	41 33	4	33.4
24	12	37 46	2	35.7	9	12	41 37	4	33.7:
16	12	37 47	6	44.2	16	9	41 37	—6	37.8
9	12	37 58	4	44.8	7	12	41 38	+3	46.4
9	11	38 0	4	49.7†	24	10	41 38	—2	39.3
24	9	38 0	2	32.7	14	12½	41 39	3	11.4
24	10½	38 7	—2	26.4	9	11½	41 43	—4	29.6
7	9½	38 8	+3	56.3	7	11½	41 44	+3	37.9
16	10	38 21	—6	36.0	24	11	41 44	—2	35.6
16	10½	38 21	6	48.6	16	10	41 49	6	36.5
14	12	38 30	3	19.4	14	12	42 23	3	19.4
24	11½	38 52	2	28.9	24	10½	42 26	—2	37.4†
16	11	39 3	6	51.9	7	11½	42 37	+3	46.7
16	10	39 13	6	37.5	16	9	42 40	—6	32.5
9	11	39 20	4	34.7	7	11½	42 45	+3	52.3
9	10	39 24	—4	0.1†	16	9½	42 45	—6	36.0
7	11½	39 25	+3	44.9	9	10	42 55	—4	43.7
24	10	39 25	—2	42.9	7	10	43 1	+3	54.8
9	12½	39 26	4	35.4	9	12	43 4	—4	43.7
24	12	39 32	2	45.1	14	10	43 10	3	17.7
16	11	39 40	6	46.6	24	11	43 14	2	36.4
14	12	12 39 43	—3	11.5	24	11	12 43 25	—2	40.7

\* Faint and round.

† Southern of a double. Larger 10th Mag.

‡ (4).

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	°			h. m. s.	°
9	II	12 43 26	-4 40.3	9	II $\frac{1}{2}$	12 47 2	-4 32.0
16	IO $\frac{1}{2}$	43 39	6 49.9	9	II $\frac{1}{2}$	47 12	4 28.3
14	IO	43 39	2 32.4	16	II $\frac{1}{2}$	47 16	6 46.9†
9	9	44 10	4 31.8	14	II	47 19	3 16.4
14	IO $\frac{1}{2}$	44 12	3 30.5	14	12	47 24	3 16.8
16	II $\frac{1}{2}$	44 12	-6 46.5	24	IO	47 30	2 29.8
7	IO $\frac{1}{2}$	44 13	+3 38.2	24	IO $\frac{1}{2}$	47 31	2 42.0
24	II	44 15	-2 30.9	24	9	47 34	2 47.6
9	II $\frac{1}{2}$	44 18	4 34.8	9	II	47 37	4 29.0
14	IO $\frac{1}{2}$	44 22	3 21.8	16	II	47 43	6 34.0
24	9	44 22	2 34.6	9	II	47 52	4 27.7
9	8	44 36	4 33.9*	24	II *	48 27	2 46.6
24	II	44 39	2 31.3	24	IO	48 29	2 34.5
16	II	44 43	6 38.7	14	IO $\frac{1}{2}$	48 32	3 22.2‡
9	12	44 46	4 33.3	14	II	48 36	3 22.9
14	12	24 58	-3 11.9	16	IO $\frac{1}{2}$	48 37	6 41.7
7	12	45 3	+3 45.7	9	9	48 38	-4 35.6
14	12	45 6	-3 13.8	7	II	48 39	+3 38.9
7	II	45 15	+3 48.5	14	II	48 45	-3 22.8
14	12	45 35	-3 13.2	7	12	49 7	+3 51.4
24	II $\frac{1}{2}$	45 40	2 29.1	7	12	49 9	+3 45.8
16	II $\frac{1}{2}$	45 49	6 45.2	16	II	49 9	-6 49.8
9	II	46 10	-4 29.9	7	12	49 10	+3 49.3
7	9	46 12	+3 56.2	7	12	49 31	+3 48.8
7	II $\frac{1}{2}$	46 24	3 51.7	9	II	49 37	-4 32.6
7	9 $\frac{1}{2}$	46 27	+3 44.9	24	IO	49 47	2 47.6
24	II	46 27	-2 41.3	14	II $\frac{1}{2}$	49 51	3 16.8
9	9	46 35	4 31.2	9	II	49 53	4 47.2
24	II $\frac{1}{2}$	46 37	2 40.2	14	II	49 56	3 12.1
9	9	46 52	4 27.7	14	IO	49 59	3 22.0§
14	IO $\frac{1}{2}$	46 59	3 21.7	9	9	50 6	4 29.8
14	IO $\frac{1}{2}$	47 0	3 20.4	24	II $\frac{1}{2}$	50 16	2 28.8
16	IO	47 0	-6 49.2	24	II $\frac{1}{2}$	50 17	2 29.4
7	12	47 1	+3 44.7	14	II	50 18	3 11.9
14	12	12 47 1	-3 10.1	16	IO	12 50 37	-6 49.8

\* A 12th Mag. p.

† A. 10 $\frac{1}{2}$  S. f.

‡ Double.

§ L. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
7	10	12 50 59	+3 48.2	24	10	12 54 18	-2 29.0
9	10	51 3	-4 37.6*	7	11	54 21	+3 38.1
24	11	51 8	-2 40.5	16	11	54 23	-6 48.0*
7	12	51 13	+3 49.6	7	11	54 27	+3 51.6
14	11½	51 18	-3 24.7	24	10½	54 29	-2 36.0
9	12	51 19	4 37.1	9	9	54 33	4 28.5
16	10½	51 19	6 30.5†	9	9	54 45	-4 30.8
24	12	51 24	2 32.6	7	11½	54 55	+3 46.3
14	12	51 41	3 16.5	16	9	55 11	-6 27.8
16	11½	51 41	6 49.6	24	10	55 18	2 36.3
24	11	51 47	2 35.4	14	9	55 21	3 28.7
24	11	51 54	2 33.1	16	11	55 22	6 38.6
14	12	51 56	-3 15.5	9	12	55 51	4 48.0
7	11½	51 59	+3 43.1†	9	12	55 58	4 44.2
16	11	52 6	-6 42.1	24	11	56 1	-2 34.2
7	10	52 9	+3 55.1	7	12	56 7	+3 49.6
14	9	52 15	-3 29.8	24	9½	56 13	-2 33.1†
14	9½	52 17	3 18.5	14	9½	56 21	3 12.3
9	11	52 28	4 51.7	9	11	56 29	4 47.1
16	11	52 31	6 43.0	14	9½	56 29	-3 10.2
16	12	52 36	6 49.4	7	12	56 30	+3 50.6
14	9	52 55	3 31.7	16	11	56 33	-6 32.7
9	11	52 56	4 42.3	24	11½	56 36	2 41.1
24	10½	53 2	2 47.3	14	12½	56 38	3 11.9:
9	11½	53 4	4 47.3	24	9½	56 49	2 50.2
24	10½	53 28	2 47.1	16	12½	56 58	6 32.6
14	9	53 36	3 26.3	14	12½	57 1	-3 13.4
16	12	53 45	6 33.9	7	12	57 12	+3 38.0
16	12	53 52	6 48.2	16	11	57 15	-6 33.8
24	10	53 53	2 26.7	24	11	57 16	2 47.2
14	10	53 54	3 16.7	16	11	57 17	-6 48.1
9	10	53 57	4 27.9	7	10½	57 18	+3 43.1
24	9½	54 5	2 30.6	9	10½	57 32	-4 34.9
14	12	54 6	3 26.4	16	11	57 35	-6 48.7
14	9½	12 54 18	-3 25.3	7	11	12 57 40	+3 46.4

• (4).

† L. of double.

‡ (4.) L. of double.

P



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
14	11 $\frac{1}{2}$	12 57 41	-3 24.5	9	11 $\frac{1}{2}$	13 1 28	-4 38.2
14	9 $\frac{1}{2}$	57 46	3 24.6	9	Neb.	1 30	4 35.6
9	10 $\frac{1}{2}$	57 47	4 44.6	9	11 $\frac{1}{2}$	1 40	4 32.3
24	12	57 51	2 44.9	14	12	1 42	3 10.7
16	12	58 3	6 45.4	14	12	1 45	3 12.3
9	10 $\frac{1}{2}$	58 14	4 31.0	16	11	1 51	6 49.9
24	12	58 17	2 45.1	16	10	1 53	6 34.0
16	9	58 22	6 34.4	16	10	1 57	6 36.8
24	10 $\frac{1}{2}$	58 34	2 50.1	16	11	2 30	6 47.3
14	12	58 39	3 13.9	14	12	2 51	3 27.8
9	9	58 50	4 36.6	16	11	2 58	6 45.4
16	11	58 59	6 31.9	14	11	3 3	3 12.2
14	9	59 19	3 14.2	16	10 $\frac{1}{2}$	3 18	6 38.8
24	9	59 23	2 29.8	16	10 $\frac{1}{2}$	3 21	6 47.9
16	10 $\frac{1}{2}$	59 25	6 29.2	9	11	3 24	4 49.7
24	11	59 28	2 35.0	9	12	3 40	4 48.7
24	11	59 29	2 30.0	9	10 $\frac{1}{2}$	3 46	4 42.0
14	10	12 59 34	3 15.4	16	8	3 51	6 35.7
24	10	13 0 0	-2 30.7	16	12	3 58	6 47.8
7	10 $\frac{1}{2}$	0 10	+3 35.6	14	11	4 5	3 26.9
16	12 $\frac{1}{2}$	0 15	-6 46.6*	9	10	4 6	4 31.8
14	9 $\frac{1}{2}$	0 16	3 28.0	14	9 $\frac{1}{2}$	4 55	3 23.1
14	10 $\frac{1}{2}$	0 17	3 16.9	14	8	4 55	6 49.8
24	11	0 20	2 28.7	9	10	4 58	4 41.4
16	12 $\frac{1}{2}$	0 22	6 46.4	16	12	5 1	6 46.5:
16	12	0 27	6 45.2	16	12	5 16	6 48.1
9	11 $\frac{1}{2}$	0 29	4 45.8	9	9	5 27	4 35.7
9	10	0 39	4 35.6	16	9	5 40	6 45.8†
16	11	0 39	6 47.4	9	11	6 39	4 35.4
14	10 $\frac{1}{2}$	0 58	3 14.1	16	12 $\frac{1}{2}$	7 31	6 47.6
16	12	0 59	-6 46.1	16	11	7 42	6 44.1
7	12 $\frac{1}{2}$	1 6	+3 38.6	16	12	7 58	6 35.0
14	10	1 7	-3 10.0	16	10	9 5	6 34.6
16	11	1 15	-6 52.1	16	11	9 27	6 47.7
7	10	13 1 28	+3 48.7	16	12	13 10 5	-6 47.3

\* p. of double.

† A. 9th Mag. f.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	°			h. m. s.	°
9	10	13 10 30	-4 41.2*	9	11½	13 20 17	-4 35.2
16	11	10 52	6 45.4	16	12	20 26	6 33.0
16	12	11 5	6 43.7	16	12	20 30	6 29.0
16	11	11 7	6 49.9	9	12	20 34	4 48.4
16	10½	11 19	6 43.4	9	12	20 56	4 42.6
16	9½	11* 30	6 42.2	9	11½	21 27	4 35.5
9	11	11 46	4 47.5	16	12	21 31	6 41.8
9	10	11 51	4 43.1	16	11	21 42	6 34.8
9	11	12 12	4 40.8	16	11	22 7	6 46.6
9	12	12 19	4 37.4	9	12	22 8	4 44.8
16	8	12 46	6 41.5*	9	11	22 22	4 41.0
16	12	12 57*	6 43.7	16	11	22 54	6 49.6
16	12	13 19	6 37.4	9	11½	23 6	4 44.9
16	11½	13 30	6 34.4	9	12	23 22	4 31.9
9	12	14 1	4 47.2	9	11	23 25	4 50.9
16	9	14 49	6 45.2	16	8	24 7	6 48.7
9	12	14 51	4 31.1	16	9½	24 35	6 28.3
9	10	15 2	4 40.6*	9	11	24 43	4 42.7
9	10	15 4	4 40.7*	16	9	24 47	6 32.2
9	11½	15 10	4 33.7	9	10	25 13	4 42.5
9	11½	15 10	4 31.0	16	11½	25 44	6 46.0
16	10	15 26	6 45.7	9	11	25 48	4 37.8*
16	9	15 50	6 48.4	9	11½	25 53	4 45.3
9	12	16 43	4 34.8	16	8	26 1	6 30.7
9	12	16 59	4 35.4	9	10	26 45	4 44.9
16	12	17 14	6 47.2	16	11	26 47	6 52.6
9	11	17 29	4 32.5	16	9	26 49	6 49.8
9	11½	17 48	4 36.3	9	12	27 30	4 37.9
16	11	18 1	6 31.1	16	11½	27 56	6 36.9
9	11	18 15	4 39.4	16	10	28 2	6 30.7
16	11	18 33	6 32.9	9	12	28 4	4 40.0*
16	12	18 39	6 44.5†	16	11	28 16	6 38.1
9	9½	19 3	4 28.4	16	12	28 24	6 38.3
9	9½	19 13	4 36.6	16	12	28 30	6 34.6
9	11½	13 19 38	-4 43.3	16	12	13 28 36	-6 37.5

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
16	12	<sup>h. m. s.</sup> 13 29 24	<sup>°</sup> -6 38.3	9	11½	<sup>h. m. s.</sup> 13 31 22	<sup>°</sup> -4 36.0
9	12	29 26	4 35.4	9	10½	31 36	4 31.4
9	12	29 52	4 41.2*	16	12	31 51	6 43.9
9	10½	29 54	4 42.6	16	11	32 7	6 43.3
16	9	30 34	6 34.1	16	10	32 12	6 37.0
16	11½	30 43	6 48.5	16	10	13 32 22	-6 39.1
9	11½	13 31 14	-4 32.3				

• A. 12th S.

## APPROXIMATE MEAN PLACES, FOR JANUARY 1, 1850,

OF

## 254 STARS NEAR THE ECLIPTIC,

OBSERVED IN MAY, 1852, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
20	12	<sup>h. m. s.</sup> 14 27 45	<sup>°</sup> -18 48.1	20	10	<sup>h. m. s.</sup> 14 38 26	<sup>°</sup> -18 32.8
20	12	28 19	18 37.7	20	11	39 27	18 47.2
20	10	30 47	18 35.7	20	11	39 46	18 34.2
20	9	30 52	18 48.2	20	10	39 50	18 31.0
20	10½	31 11	18 40.8	20	11½	40 18	18 31.2
20	9	31 49	18 43.1	20	11½	40 38	18 46.6
20	9½	32 4	18 43.8	20	9½	42 3	18 35.1
20	10	32 52	18 42.9	20	8	42 28	18 51.3
20	11½	34 16	18 34.6	20	12	42 31	18 42.2
20	12	34 30	18 42.4	20	10½	43 40	18 34.6
20	12	36 51	18 35.6	20	9	43 52	18 49.2
20	12	36 57	18 43.2	20	12	44 0	18 45.5
20	12	36 57	18 45.5	20	11½	44 23	18 45.3
20	11	38 11	18 46.7	20	11½	45 53	18 32.4
20	9	14 38 26	-18 42.7	20	10½	14 46 26	-18 42.9

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<small>h. m. s.</small>	<small>° ' "</small>			<small>h. m. s.</small>	<small>° ' "</small>
20	11	14 47 21	18 27.7	20	9	15 10 15	18 49.9
20	11	47 34	18 27.2	20	12	10 57	18 46.8
20	11½	47 43	18 36.2	20	11	11 37	18 33.2
20	11½	49 22	18 50.0	20	11	12 31	18 34.9
20	12	50 21	18 46.8	20	11	12 44	18 36.3
20	11	51 16	18 47.6	20	11	13 10	18 35.9
20	11	51 33	18 29.7	20	11	14 24	18 42.7
20	8½	53 2	18 40.0*	20	10	14 24	18 46.7
20	12	53 10	18 34.5	20	10	14 50	18 35.0
20	11	53 41	18 32.8	20	9½	15 37	18 34.1
20	10	53 53	18 29.8	20	11½	16 4	18 29.8
20	11	54 41	18 26.6	20	9½	16 6	18 33.2
20	12	54 58	18 40.3	20	10½	17 4	18 48.1
20	11½	55 59	18 49.2	20	12	17 8	18 42.6
20	10½	56 1	18 37.9	20	11½	17 26	18 47.2
20	10	56 42	18 48.0	20	11½	17 37	18 46.3
20	11½	58 56	18 38.8	20	9	19 5	18 38.1
20	10½	59 20	18 45.2	20	11	19 8	18 34.0
20	11	14 59 54	18 42.2	20	11	19 17	18 35.2
20	11	15 0 33	18 45.4	20	10	20 10	18 36.0
20	10	0 39	18 43.6	20	11½	20 25	18 33.3
20	11	0 58	18 30.8	20	12	20 36	18 33.3
20	10	1 42	18 49.2	20	10½	21 28	18 37.4
20	11	1 56	18 47.2	20	12	21 33	18 47.2
20	10½	2 37	18 33.6	20	12	23 24	18 34.7
20	10	3 20	18 43.3	20	10	23 37	18 35.8
20	10	3 24	18 44.1	20	11½	24 25	18 31.9
20	9	5 58	18 40.9*	20	11	25 14	18 32.0
20	9	7 37	18 33.2	20	12	25 15	18 42.1
20	12	8 3	18 31.5	20	11	25 31	18 33.3
20	10	8 39	18 32.4	20	12	26 57	18 43.3
20	9	8 50	18 27.5	20	9	27 23	18 35.9
20	9½	9 48	18 43.2	20	10	27 23	18 47.0
20	9½	9 48	18 29.7	20	9½	28 31	18 38.2*
20	9½	15 9 57	18 41.3	20	8	15 29 7	18 44.6

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.						h. m. s.			
20	10	15 29 11			-18 40.2*	20	12	15 50 14			-18 28.6
20	12 <sup>†</sup>	30 53			18 32.1†	20	12	50 41			18 45.7
20	11	30 58			18 27.5†	20	12	50 43			18 47.0
20	10	32 0			18 30.9	20	10½	51 48			18 45.4
20	10	32 25			18 36.9*	20	9	52 20			18 32.0
20	10½	33 3			18 37.2*	20	11½	53 13			18 42.2
20	12	33 4			18 42.9	20	12	53 14			18 43.1
20	11	33 19			18 40.4	24	11½	53 50			18 35.3
20	10	34 17			18 30.1	20 24	10	54 7			18 37.0
20	11	34 45			18 35.5	20 24	10	54 14			18 46.8
20	11½	34 57			18 35.1	24	11	54 18			18 38.6
20	10½	35 46			18 36.0	20 24	11	54 30			18 41.0
20	11	35 58			18 30.5	20	12	55 1			18 35.7
20	12	37 12			18 44.5	24	9	55 20			18 40.9*
20	11	37 23			18 38.9	20 24	9	56 8			18 44.4
20	10	37 26			18 45.0	20 24	10½	56 38			18 33.0
20	9	38 22			18 39.7	20 24	10	57 16			18 33.3
20	11½	39 48			18 34.5	24	10	57 21			18 30.3
20	9	40 1			18 45.1	24	11	57 44			18 45.5
20	11½	40 7			18 43.0	20 24	11	58 25			18 37.4
20	11	40 59			18 29.5	20 24	11½	58 40			18 35.6
20	10½	41 39			18 47.0	20 24	11½	58 51			18 33.0
20	10½	41 50			18 42.0	20 24	10	15 59 3			18 32.5
20	10	42 40			18 47.9	24	9½	16 0 24			18 38.6*
20	10½	42 53			18 42.5	20 24	12	0 36			18 34.3
20	10	44 4			18 43.0	24	11½	0 56			18 44.9
20	10	44 30			18 41.2	20	11½	1 4			18 35.7
20	11	45 23			18 39.9	24	11	1 50			18 43.5
20	12	45 50			18 35.9	24	11	2 27			18 40.9
20	11	46 53			18 26.5	24	11	2 47			18 46.5
20	10½	47 45			18 28.6§	24	11	2 54			18 45.9
20	10½	48 10			18 27.4	24	11	3 14			18 46.9
20	10	48 18			18 41.1	24	11	3 17			18 43.3
20	11	48 36			18 39.0	24	11	4 1			18 28.4
20	12	15 50 13			-18 44.6	24	11	15 4 39			-18 35.4

• (4).

† N. of double.

‡ S. of two.

§ p. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	$^{\circ}$			h. m. s.	$^{\circ}$
24	9 $\frac{1}{2}$	15 5 59	-18 47.6	24	11	15 32 45	-18 41.0
24	10	6 10	18 51.1	24	9	33 43	18 38.6*
24	11 $\frac{1}{2}$	7 25	18 40.7	24	11	34 24	18 31.3,
24	11	9 24	18 41.2	24	11	35 11	18 44.4
24	11 $\frac{1}{2}$	10 42	18 47.4	24	11 $\frac{1}{2}$	35 15	18 42.1
24	10 $\frac{1}{2}$	10 45	18 49.5	24	11	35 24	18 44.9
24	10	11 14	18 47.7	24	11	35 33	18 43.1
24	10	12 2	18 49.3	24	11	35 51	18 42.0
24	10	12 27	18 29.6	24	11	38 32	18 51.2
24	12	13 7	18 43.3	24	12	39 10	18 32.6
24	11 $\frac{1}{2}$	13 14	18 43.6	24	12	39 53	18 34.5
24	11 $\frac{1}{2}$	13 35	18 45.3	24	10 $\frac{1}{2}$	40 21	18 42.5
24	11	13 56	18 44.3	24	11 $\frac{1}{2}$	40 59	18 33.9
24	11	14 46	18 33.5	24	11	41 24	18 33.1
24	11	15 19	18 33.0	24	10	42 3	18 47.0
24	11 $\frac{1}{2}$	15 41	18 33.4	24	10 $\frac{1}{2}$	42 47	18 48.2
24	10	15 59	18 32.9	24	10 $\frac{1}{2}$	43 13	18 39.3
24	10 $\frac{1}{2}$	16 16	18 45.5	24	10 $\frac{1}{2}$	43 25	18 44.9
24	10	17 28	18 48.2	24	11	43 34	18 33.4
24	9	17 58	18 47.0	24	11	43 45	18 34.1
24	11 $\frac{1}{2}$	19 20	18 44.9	24	10 $\frac{1}{2}$	45 7	18 43.4
24	11	20 42	18 34.7	24	12	45 13	18 42.8
24	11	20 47	18 46.3	24	8 $\frac{1}{2}$	45 16	18 29.2
24	12	23 33	18 44.5	24	8 $\frac{1}{2}$	45 19	18 38.9*
24	10	24 48	18 28.2	24	9 $\frac{1}{2}$	46 18	18 31.1
24	11	25 43	18 52.4	24	11	48 12	18 47.4
24	11	25 45	18 49.4	24	12	48 13	18 43.3
24	9 $\frac{1}{2}$	26 28	18 39.0	24	10 $\frac{1}{2}$	48 58	18 35.1
24	11	28 42	18 48.0	24	11 $\frac{1}{2}$	49 7	18 38.7
24	10 $\frac{1}{2}$	29 2	18 48.5	24	10 $\frac{1}{2}$	49 10	18 35.8
24	10	29 16	18 43.1	24	11	50 17	18 31.5
24	11	32 20	18 42.2	24	11	50 23	18 31.1
24	11 $\frac{1}{2}$	32 24	18 48.0	24	8	50 38	18 32.0
24	11	32 31	18 43.8	24	11	54 15	18 49.5
24	11	15 32 37	-18 38.5	24	9	15 54 51	-18.42.3

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.						h. m. s.			
24	11 $\frac{1}{2}$	15 55 3	—	18 43.1		24	12	15 57 23	—	18 44.5	
24	11 $\frac{1}{2}$	55 9		18 43.8		24	9	58 18		18 52.1	
24	10	55 9		18 46.7		24	9	58 39		18 47.3	
24	12	55 27		18 40.1*		24	11	59 21		18 38.1	
24	11	55 37		18 44.8		24	11	59 24		18 38.6	
24	10 $\frac{1}{2}$	56 44		18 33.4		24	11	59 29		18 34.3	
24	11	15 57 10	—	18 44.9		24	11	15 59 31	—	18 37.0	

\* Smaller of double.

## APPROXIMATE MEAN PLACES FOR JANUARY 1, 1850,

OF

## 720 STARS NEAR THE ECLIPTIC,

OBSERVED IN JULY, 1852, AT MARKREE.

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.						h. m. s.			
7	12	17 45 7	—	24 22.2		7	11	17 49 19	—	24 23.8	
7	9 $\frac{1}{2}$	45 52		24 9.7		7	11	49 28		24 11.2	
5	11	46 8		19 35.3		9	11	49 30		25 21.2	
7	11	46 30		24 29.4		7	11	50 12		24 19.1	
7	11	46 35		24 29.2		9	10	50 39		25 8.6	
5	10 $\frac{1}{2}$	46 48		19 47.3		9	11	50 50		25 21.0	
5	10 $\frac{1}{2}$	47 19		19 47.6		9	11	51 6		25 8.8	
7	10	47 19		24 10.6		7	9 $\frac{1}{2}$	51 41		24 11.7	
9	11	47 30		25 12.0		9	11	51 44		25 15.4	
7	8 $\frac{1}{2}$	47 48		24 23.8		5	10 $\frac{1}{2}$	51 49		19 41.7	
9	11	47 57		25 20.3		7	10	51 50		24 8.4	
9	11	48 11		25 21.7*		5	10	52 11		19 51.5	
9	11	48 23		25 21.3		5	11	52 19		19 41.0	
5	10	48 41		19 51.8		9	12	52 28		25 29.0	
7	11	17 48 42	—	24 14.6		7	10	17 52 40	—	24 21.5	

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		h. m. s.	° ' "			h. m. s.	° ' "
9	II	17 53 15	25 14.1	7	12	18 1 44	24 9.6
9	II	53 25	25 28.1	9	11½	1 53	25 14.0
7	11½	54 11	24 14.1	7	12	1 55	24 10.8
9	9½	54 11	25 15.6	7	11½	2 7	24 11.0
9	9½	54 16	25 15.9	9	11	2 22	25 22.8
9	II	54 39	25 24.5	7	12	2 58	24 24.1
9	10	54 42	25 28.5	7	11½	3 0	25 27.0
7	II	55 11	24 26.2*	22	11½	3 1	25 33.7
7	10	55 14	24 23.2*	22	11½	3 24	25 40.4
7	II	55 24	24 26.9*	5	10	4 3	19 46.5
9	10½	55 26	25 11.8	7	9	4 24	24 18.8†
7	II	55 30	24 21.0*	7	II	4 27	24 27.3
9	II	56 11	25 16.4	7	II	4 37	24 23.6
9	10½	56 29	25 14.5	7	II	4 42	24 26.7
9	10½	56 46	25 31.6	7	10½	4 46	24 20.3
5		57 4	19 27.8	9	II	5 4	25 18.9
7	12	57 9	24 10.6	9	II	5 20	25 25.2
9	9	57 16	25 28.9	9	II	5 42	25 15.4
5	10½	57 26	19 33.6	5	11½	5 49	19 45.1
9	11½	57 48	25 13.4	22	9	5 54	25 49.7†
22	9	58 17	25 34.7†	7	10½	6 14	24 12.2
7	10½	58 45	25 27.8	7	10	6 18	24 10.4
7	II	59 3	24 25.7	7	12	6 25	24 10.5
22	9½	59 5	25 43.8†	22	9½	6 40	25 45.1
22	12	59 25	25 44.1	9	10	6 42	25 29.9
9	11½	59 26	25 21.8	5	9½	6 46	19 31.0
5	II	59 34	19 52.8	22	II	6 47	25 45.0§
7	10½	17 59 56	24 25.8	9	11½	6 53	25 17.5
5	II	18 0 23	19 44.4	22	11½	6 53	25 36.3
9	II	0 34	25 28.3	9	11½	6 56	25 18.2
9	9½	0 41	25 18.2	22	9½	7 2	25 35.4†
7	II	0 58	24 26.0	7	12	7 17	24 12.9
9	10½	1 21	25 20.4	9	II	7 36	25 13.7
22	10½	1 28	25 41.8†	7	12	7 37	24 27.0
9	II	18 1 40	25 12.8	9	10½	18 7 38	25 12.0

\* Form a coarse cluster.

† A. Z.—(Argelander's Zones.)

‡ (4)²

§ 11th S. S.



Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h.	m.	s.	$^{\circ}$			h.	m.	s.	$^{\circ}$
7	II	18	8	6	-24 24.6	7	IO $\frac{1}{2}$	18	13	9	-24 12.3
5	IO $\frac{1}{2}$		8	8	19 36.2	22	IO $\frac{1}{2}$		13	38	25 28.4
7	IO $\frac{1}{2}$		8	12	24 26.9	5	IO		14	2	19 49.8
9	9		8	21	25 23.3	7	IO		14	20	24 21.4
5	9		8	35	19 32.0	5	IO $\frac{1}{2}$		14	21	19 46.2
9	II		8	45	25 28.5	7	II		14	24	24 20.2
22	IO $\frac{1}{2}$		8	56	25 36.9	22	II $\frac{1}{2}$		14	35	25 37.9
7	IO		9	3	24 24.4	9	II		14	40	25 29.1
9	II		9	5	25 18.6	22	II		14	50	25 51.4
7	IO		9	7	24 21.3	9	II		15	2	25 21.6
7	IO $\frac{1}{2}$		9	29	24 26.5	7	II		15	4	24 19.9
9	II $\frac{1}{2}$		9	30	25 26.2	22	II		15	4	25 37.1
9	9 $\frac{1}{2}$		9	48	25 22.6	5	9		15	12	19 27.9
9	II		9	49	25 25.4	5	8 $\frac{1}{2}$		15	17	19 38.9*
22	IO		9	52	25 34.3	9	12		15	17	25 15.4
9	9 $\frac{1}{2}$		10	6	25 23.2	9	II $\frac{1}{2}$		15	27	25 28.7
22	IO		10	11	25 43.9	5	IO		15	46	19 48.4
5	II		10	18	19 42.0	7	9		15	53	24 29.4
9	IO $\frac{1}{2}$		10	25	25 15.2	9	II		16	10	25 15.0
7	II		10	32	24 25.6	22	II $\frac{1}{2}$		16	21	25 45.4
7	II		10	48	24 19.7	22	IO $\frac{1}{2}$		16	39	25 33.5
7	II $\frac{1}{2}$		10	52	24 23.0	9	II		16	48	25 25.2
9	II $\frac{1}{2}$		11	18	25 14.7	7	II $\frac{1}{2}$		16	52	24 27.6
9 22	9		11	27	25 31.7	9	II $\frac{1}{2}$		17	0	25 14.2
22	IO $\frac{1}{2}$		11	31	25 48.2	9	II		17	6	25 12.9
9	II $\frac{1}{2}$		11	33	25 12.7	7	II		17	13	24 27.5
7	II		11	49	24 11.6	9 22	IO $\frac{1}{2}$		17	33	25 32.1
7	II		12	11	24 26.4	22	II		18	2	25 52.8
9 22	9 $\frac{1}{2}$		12	14	25 29.3	7	II		18	12	24 18.8*
22	II		12	24	25 34.6	7	II $\frac{1}{2}$		18	23	24 25.4
9	II $\frac{1}{2}$		12	30	25 25.3	22	IO		18	43	25 46.0
22	IO $\frac{1}{2}$		12	41	25 48.9	9	IO $\frac{1}{2}$		18	45	25 24.6
7	II $\frac{1}{2}$		12	46	24 24.5	9	IO $\frac{1}{2}$		19	31	25 21.7
5	II $\frac{1}{2}$		12	51	19 44.7	7	II		19	36	24 30.1
9	9 $\frac{1}{2}$	18	12	51	-25 25.9	7	II	18	19	43	-24 27.4

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
22	II	<sup>h. m. s.</sup> 18 19 51	<sup>°</sup> —25 33.8	9	9 $\frac{1}{2}$	<sup>h. m. s.</sup> 18 28 12	<sup>°</sup> —25 25.0
22	II	19 53	25 38.5	7	II $\frac{1}{2}$	28 20	24 11.7
9	II	20 31	25 29.0	9	II	28 29	25 14.7
7	12	20 33	24 23.4	22	II $\frac{1}{2}$	28 57	25 44.8
7	12	20 36	24 25.3	7	II $\frac{1}{2}$	29 10	24 16.7
9	II	20 37	25 23.8	9	IO $\frac{1}{2}$	30 8	25 21.7§
9	IO $\frac{1}{2}$	20 59	25 26.2	7	II	30 25	24 26.9
22	II	21 5	25 48.0	22	9 $\frac{1}{2}$	30 33	25 37.7†
7	IO	21 24	24 19.9	9	II	30 48	25 25.0
9	12	21 26	25 25.5	7	IO $\frac{1}{2}$	31 5	24 25.8
22	Neb.	21 40	25 35.5*	7	IO $\frac{1}{2}$	31 24	24 16.2
7	12	22 4	24 12.7	22	II	31 27	25 39.1§
7	IO $\frac{1}{2}$	22 22	24 15.7	9	9 $\frac{1}{2}$	31 34	25 8.6
22	9 $\frac{1}{2}$	22 24	25 47.4†	9	II	31 36	25 24.4
7	II $\frac{1}{2}$	22 28	24 16.3	7	12	31 37	24 10.2:
9	II	22 43	25 12.8	22	IO $\frac{1}{2}$	32 4	25 33.8
22	IO $\frac{1}{2}$	22 50	25 49.3	9	9 $\frac{1}{2}$	32 31	25 18.1
9	II $\frac{1}{2}$	22 52	25 17.5	22	12	32 50	25 50.2
7	II	22 53	24 16.5	9	II $\frac{1}{2}$	32 54	25 16.8
9	II	23 20	25 13.7	22	II	32 58	25 45.2
22	12	23 37	25 36.6	9	IO	33 20	25 24.6
9	9	23 39	25 11.4	9	9 $\frac{1}{2}$	33 21	25 16.2
22	12 $\frac{1}{2}$	23 47	25 35.9†	22	12	33 35	25 48.8
9	9 $\frac{1}{2}$	23 50	25 16.9	22	9 $\frac{1}{2}$	33 37	25 38.0
7	9 $\frac{1}{2}$	24 25	24 10.8	9	9	33 40	25 10.1
9 22	9	24 52	25 29.2†	7	IO	33 54	24 27.5
9	IO	25 23	25 18.9§	7	II $\frac{1}{2}$	34 2	24 23.2
9	II $\frac{1}{2}$	25 39	25 13.1	9	II	34 18	25 26.4
22	12	25 57	25 44.0	22	II $\frac{1}{2}$	34 20	25 34.8
9	IO	26 5	25 15.2	9	II $\frac{1}{2}$	34 24	25 28.8
22	IO	26 23	25 43.4†	7	II	34 28	24 21.0
7	12	26 59	24 12.6	7	II	34 43	24 22.9
7	12	27 19	24 12.1	9	12	34 48	25 14.2
9	9	27 21	25 25.8	7	IO $\frac{1}{2}$	34 55	24 14.8
22	12	18 27 35	—25 49.4	22	IO	18 34 56	—25 37.1

\* Faint and round.

† A. Z.

‡ A. 12 $\frac{1}{2}$  p. § (4.)

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h.	m.	s.	$^{\circ}$			h.	m.	s.	$^{\circ}$
9	II	18	35	21	25 16.0	22	II $\frac{1}{2}$	18	42	2	25 45.4
9	II		35	24	25 22.3	22	II		42	12	25 49.5
22	9 $\frac{1}{2}$		35	32	25 31.9*	7	II $\frac{1}{2}$		42	35	24 22.0
22	II		35	38	25 37.5	9 22	IO $\frac{1}{2}$		42	41	25 32.8
7	IO $\frac{1}{2}$		35	44	24 17.4	7	9		42	42	24 23.6
7	IO		36	6	24 25.2	22	9 $\frac{1}{2}$		42	59	25 31.4
7	IO $\frac{1}{2}$		36	10	24 20.2	9	IO $\frac{1}{2}$		43	11	25 24.4
9	II		36	18	25 27.5	7	II		43	19	24 16.0
22	IO $\frac{1}{2}$		36	23	25 45.3	9	II $\frac{1}{2}$		43	23	25 27.2
9	II		37	17	25 30.1	9	II $\frac{1}{2}$		43	36	25 27.6
9	12		37	27	25 24.6	22	12		44	0	25 36.7
7	II		37	40	24 26.6	22	IO $\frac{1}{2}$		44	2	25 38.8
7	II $\frac{1}{2}$		37	56	24 23.5:	22	IO		44	20	25 46.5
9	IO		38	4	25 22.2†	9	II		44	25	25 26.9
7	II		38	10	24 21.6	7	12		44	28	24 9.5
22	II $\frac{1}{2}$		38	12	25 37.1	9	12		44	39	25 24.7
7	II $\frac{1}{2}$		38	22	24 19.0	7	12		44	58	24 12.1
9	II $\frac{1}{2}$		38	22	25 28.2	22	II $\frac{1}{2}$		45	3	25 33.7
22	II $\frac{1}{2}$		38	27	25 33.8	7	II $\frac{1}{2}$		45	30	24 14.2
9 22	II		38	29	25 32.7	9 22	9 $\frac{1}{2}$		45	31	25 28.4
22	12		39	15	25 47.1	9	II		45	40	25 13.3
22	12		39	19	25 32.1	22	IO $\frac{1}{2}$		46	5	25 37.2
9	II		39	33	25 24.7	9	II		46	20	25 16.2
7	II		40	20	24 11.2	9	9 $\frac{1}{2}$		46	23	25 12.6
22	9		40	24	25 46.6:	9	8		46	47	25 13.9
22	IO		40	27	25 47.9	9	IO $\frac{1}{2}$		46	48	25 11.0
9	II $\frac{1}{2}$		40	30	25 14.4†	22	12		47	0	25 47.5
22	IO $\frac{1}{2}$		40	32	25 52.6	7	II		47	3	24 14.9
22	II		40	53	25 51.5	22	12		47	5	25 42.3
7	II		40	55	24 23.9	9	IO $\frac{1}{2}$		47	22	25 15.3
9	IO		40	59	25 17.1	7	9		47	33	24 11.4
7	II $\frac{1}{2}$		41	1	24 25.2	7	II $\frac{1}{2}$		47	36	24 14.0
9	IO		41	8	25 19.7†	22	8		47	55	25 39.2*
9	12		41	33	25 27.0	7	IO $\frac{1}{2}$		48	12	24 14.8
22	II $\frac{1}{2}$	18	41	40	25 45.6	9	II $\frac{1}{2}$	18	48	28	25 26.4

\* A. Z.

† (4).

‡ L. of double.

Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>° ' "</sup>			<sup>h. m. s.</sup>	<sup>° ' "</sup>
9	II	18 48 32	25 14.7	9	II	18 54 2	25 11.7
9	II	48 35	25 30.2	7	II	54 8	24 26.6
22	9½	48 41	25 35.5*	9	II½	54 9	25 11.2
22	IO	48 59	25 33.6	9	IO	54 30	25 22.7
7	II	49 0	24 25.4†	7	II	54 46	24 9.5
7	12	49 25	24 23.8	22	12	54 55	25 44.0
7	12	49 26	24 18.9	9	II	54 58	25 24.0
9	II	49 30	25 25.7	7	II	55 26	24 27.8
9	II	49 45	25 31.6	9	II	55 49	25 31.0
9	12	49 54	25 24.3	9	II½	55 51	25 25.4
22	12	50 16	25 38.0:	22	9½	55 54	25 42.3
22	II½	50 22	25 36.4	7	II½	56 0	24 24.2
22	9	50 24	25 37.6	7	II	56 9	24 27.6
9	IO	50 34	25 14.7	7	II	56 17	24 23.7
22	II	50 58	25 40.0†	7	II	56 18	24 22.9
7	II½	51 12	24 25.5	9	II½	56 27	25 29.9
22	II	51 40	25 34.4	9 22	II	56 43	25 32.8
9	II	52 5	25 30.3	7	II	57 9	24 29.7
7	II	52 17	24 25.0	9	II½	57 17	25 23.7
7	II½	52 22	24 25.1	9	II	57 19	25 16.1
9	II	52 24	25 24.8	9	II	57 22	25 13.3
7	9½	52 25	24 20.7	7	9	57 43	24 25.1
9	IO½	52 26	25 28.8	9	12	57 43	25 14.2
7	II	52 27	24 21.4	7	IO	58 8	24 21.5
22	II	52 32	25 45.3	9 22	8½	58 10	25 28.6*
7	II	52 33	24 25.2	7	IO	58 13	24 24.7
22	IO½	52 35	25 34.2	7	II½	58 17	24 21.3
22	II	52 38	25 42.8	7	9½	58 24	24 20.9
22	II	52 40	25 42.5	7	IO½	58 47	24 15.3
22	IO	53 15	25 43.6*	9	II	58 53	25 18.2
9	II	53 23	25 28.4	22	9	58 53	25 50.2
7	II½	53 27	24 24.9	9	12	59 5	25 16.9
22	IO	53 28	25 44.6	22	9	59 12	25 35.4
9	9	53 33	25 18.9	22	9	59 28	25 29.7
7	II	18 53 42	24 25.1	22	9½	18 59 54	25 43.3

\* A. Z.

† S. f. of double.

‡ (4).

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$			$\delta$ .
		h.	m.	s.	$^{\circ}$ $'$			h.	m.	s.	$^{\circ}$ $'$
7	12	19	0	9	—24 23.2	7	11	19	5	53	—24 10.2
22	9½		0	19	25 43.5*	9	11½		6	1	25 27.9
22	12		0	19	25 33.4	22	10½		6	6	25 34.9
9	10½		0	36	25 24.9	9	11½		6	22	25 23.8
7	11		0	37	24 25.7	7	11		6	47	24 23.1
7	10		0	42	24 24.6	7	9		6	49	24 20.5
7	10½		1	5	24 25.1	7	11		6	54	24 21.9
9	10½		1	10	25 26.9	9	11½		6	58	25 24.8:
22	11		1	20	25 33.7	22	10		7	11	25 35.5*
9	11½		1	27	25 13.9	22	10		7	12	25 35.9
9	11½		1	29	25 12.7	9	11		7	13	25 26.8
22	12		1	35	25 33.4	22	12		7	59	25 31.4
9	11½		1	38	25 12.6	9	12		8	7	25 12.2
22	12		1	41	25 35.3	22	11		8	22	25 49.1
22	12		1	58	25 36.1	22	9½		8	27	25 50.0
7	11½		2	0	24 21.1	9	11		8	52	25 13.8
7	11½		2	9	24 22.6	22	11		9	3	25 35.1†
22	10		2	11	25 44.7*	9	10½		9	7	25 19.9†
9	11		2	54	25 25.0	22	12		9	9	25 34.5
7	10		3	14	24 13.8	9	12		9	41	25 14.7
9	11		3	17	25 11.9	7	11		9	43	24 13.8
22	12		3	17	25 33.1	22	9		9	45	25 31.9
7	11		3	25	24 14.0	22	9½		9	51	25 34.1
7	11		3	28	24 14.5:	7	11½		10	24	24 24.9
7	11		3	33	24 12.5:	7	11½		10	35	24 26.7
9	11		3	59	25 31.0	9	12½		10	43	25 11.4
7	10		4	8	24 16.5†	9	11½		10	50	25 12.3
22	10		4	8	25 47.1*	22	10		11	12	25 34.7*
22	11½		4	14	25 48.5	22	11		11	12	25 33.8
22	12		4	16	25 44.3	9	10		11	27	25 26.9
9	11		4	36	25 16.7	7	11		11	37	24 16.7
7	12		4	41	24 25.2	7	11½		11	41	24 23.2
9	11		4	51	25 17.6	22	9		11	46	25 48.3*
9	11½		5	5	25 12.6	22	12		11	50	25 43.6
22	10	19	5	18	—25 35.5	9	11½	19	12	4	—25 17.3

\* A. Z.

† (4).

‡ L. of double.

Days. Obs.	Mag.	$\alpha$ .		$\delta$ .	Days. Obs.	Mag.	$\alpha$ .		$\delta$ .
		h. m. s.		<sup>0</sup>			h. m. s.		<sup>0</sup>
9	10	19 12 16	—	25 28.5	22	11½	19 18 30	—	25 44.7
9 22	10	12 21	25	28.4	22	11½	18 36	25	45.2
7	10½	12 32	24	21.0	7	10	18 51	24	19.7
7	11	12 55	24	20.0	9	12½	18 54	25	16.3
22	10½	13 6	25	34.8	7	11	19 2	24	9.8
22	10½	13 8	25	35.5	9	12	19 10	25	15.1
22	12	13 15	25	33.4	9	11½	19 50	25	13.9
9	12	13 24	25	27.6	7	10½	20 5	24	15.3
22	12	13 25	25	36.0	22	8	20 5	25	46.2
9	12	13 34	25	29.3	7	12	20 8	24	11.0
7	10	14 11	24	19.8*	9	11	20 22	25	25.5
22	12	14 22	25	43.6	7	9	20 26	24	30.9
22	11	14 22	25	45.5	22	11	20 29	25	39.4
7	11	14 27	24	21.0	22	11	20 52	25	42.6
22	11	14 39	25	42.8	9	10½	20 58	25	18.7
9	11	14 55	25	17.5	22	8½	21 2	25	49.3†
22	9½	14 56	25	37.7†	22	8	21 3	25	44.7†
9	11	14 59	25	25.7	9	10½	21 24	25	24.8
9	11½	15 8	25	18.0	22	9½	21 32	25	53.6†
9	11	15 8	25	24.8	22	8	21 47	25	50.4†
9	11½	15 10	25	25.9	9	11	21 48	25	29.0
9	11½	15 20	25	24.0	7	10½	22 23	24	11.4
7	11	15 29	24	9.4	9	12	22 42	25	16.2
22	11	15 51	25	32.8	22	11½	22 47	25	32.1
9	11	16 32	25	17.9	22	11	22 49	25	33.1
22	11½	16 41	25	33.5	22	11	22 51	25	38.8
22	10½	16 43	25	43.8	9	9	23 8	25	12.7
9	12	16 48	25	27.5	7	11	23 17	24	9.8
22	11	16 48	25	44.4	22	9½	23 38	25	36.9†
22	12	16 52	25	34.7	22	11	23 57	25	47.6
9	11	16 57	25	23.0	22	9	24 0	25	46.2†
7	12	17 0	24	20.6	9	11½	24 8	25	17.8:
9	11	17 18	25	22.4†	7	11	24 30	24	14.5
7	11	17 24	24	20.2	22	12	24 45	25	33.6
9	11	19 18 29	—	25 27.2	22	12	19 24 52	—	25 33.7
9									

Days. Obs.	Mag.	$\alpha$ .			$\delta$ .	Days. Obs.	Mag.	$\alpha$ .			$\delta$ .
		h. m. s.			$^{\circ}$			h. m. s.			$^{\circ}$
22	12	19 25 17			25 34.1	9	10 $\frac{1}{2}$	19 32 57			25 15.2
9	10	26 2			25 26.5	22	9	33 11			25 40.3*
22	12	26 10			25 36.1	22	11 $\frac{1}{2}$	33 28			25 48.7
22	11 $\frac{1}{2}$	26 10			25 35.6	7	11 $\frac{1}{2}$	33 36			24 11.7
9	11 $\frac{1}{2}$	26 11			25 25.4	7	11	34 49			24 16.4*
22	10	26 25			25 48.5	7	11	35 36			24 24.7
9	10 $\frac{1}{2}$	26 41			25 24.8	7	11	36 34			24 20.1
22	11	26 59			25 42.8	7	11	37 43			24 28.0
7	10	27 16			24 17.0	7	12	41 55			24 10.2
22	11	27 20			25 35.5	7	11 $\frac{1}{2}$	41 56			24 12.3
9	12	27 27			25 16.0	7	11 $\frac{1}{2}$	42 52			24 16.9
7	12	27 31			24 24.2	7	11 $\frac{1}{2}$	42 53			24 23.4
9	12	27 51			25 18.9	7	10	43 28			24 19.7*
9	12	27 58			25 26.6	7	10	43 54			24 10.6
22	11 $\frac{1}{2}$	28 15			25 47.3	7	10	45 57			24 15.1
22	9 $\frac{1}{2}$	28 21			25 30.8	7	10	46 17			24 21.5
9	10 $\frac{1}{2}$	28 49			25 20.7	7	12	47 51			24 21.1
22	10 $\frac{1}{2}$	29 20			25 35.9	7	8	51 20			24 21.7
7	10	29 27			24 26.6	7	11	52 19			24 21.7
22	11 $\frac{1}{2}$	29 55			25 46.7	7	11	53 46			24 27.7
9	11 $\frac{1}{2}$	30 19			25 18.7	7	11 $\frac{1}{2}$	54 15			24 9.2
9	10	30 25			25 24.6	7	11 $\frac{1}{2}$	54 22			24 11.5
9	12	30 35			25 26.9	7	11	54 25			24 21.8
22	10	30 48			25 45.5	7	9 $\frac{1}{2}$	55 28			24 24.1
7	10	30 59			24 23.5	7	11 $\frac{1}{2}$	55 32			24 22.9
22	12	30 59			25 45.9	22	10 $\frac{1}{2}$	55 35			23 3.8
22	12	31 2			25 50.7	22	10	56 10			23 8.3
9	11 $\frac{1}{2}$	31 6			25 24.2	22	11	56 15			23 10.2:
9	10 $\frac{1}{2}$	31 14			25 17.3	7	11 $\frac{1}{2}$	57 19			24 11.2
9	11	31 38			25 14.4	7	11	57 20			24 10.2
9	10	31 57			25 12.5	22	12	58 27			23 8.0
7	11	32 32			24 30.1	7	12	58 32			24 25.3
7	10	32 36			24 12.5	22	12	59 24			23 8.2:
22	12	32 39			25 40.1	22	12	59 27			23 8.5
22	9 $\frac{1}{2}$	19 32 49			25 51.0	22	9	19 59 55			23 7.3†

Days. Obs.	Magn.	$\alpha$ .	$\delta$ .	Days. Obs.	Magn.	$\alpha$ .	$\delta$ .
22	9	<sup>h. m. s.</sup> 19 59 56	<sup>°</sup> -23 7.5*	22	11	<sup>h. m. s.</sup> 20 14 58	<sup>°</sup> -22 53.6
7	10½	20 0 20	24 15.7	22	11	16 6	22 57.9
7	10	0 21	24 27.4	22	10½	16 29	22 55.5
22	11	1 0	22 53.6	22	10	16 48	23 3.4†
7	10½	1 13	24 22.7	22	10½	17 3	23 4.5
22	11½	1 28	23 11.5	22	10	17 38	22 55.7
7	10½	1 42	24 21.6	22	9½	18 11	23 2.5*
22	12	1 52	22 55.3	22	10	19 38	23 10.8
7	10	1 55	24 27.6	22	11	20 20	23 9.8
22	11½	2 13	22 57.6	22	11½	20 35	23 4.8
22	10½	2 46	22 58.0	22	10	20 46	22 56.6
7	12	2 47	24 12.5	22	9½	20 59	23 4.9
7	12	2 59	24 14.7	22	9	21 19	23 0.1*
22	10½	3 16	23 3.2†	22	10½	22 0	22 58.6
7	11	3 19	24 12.3	22	11	22 22	22 55.7
22	11	3 32	23 3.4	22	9	22 51	23 0.2*
22	10	3 46	22 53.5	22	12	22 52	23 0.6
22	10½	5 13	22 50.6	22	11½	24 8	23 11.2
22	12	5 20	22 49.5	22	12	24 40	22 53.9
22	10½	6 18	23 2.4	22	12	24 42	22 54.8
22	12	6 25	22 50.6	22	11½	24 45	23 0.5
22	12	7 39	23 8.7	22	10½	25 27	22 55.7
22	12	7 41	23 6.5	22	11	25 43	23 9.8
22	10	8 27	23 13.7	22	11	26 3	23 3.8
22	9½	9 4	23 3.7	22	9	26 17	23 6.2
22	11	9 13	23 10.8	22	11	26 34	23 5.5:
22	11	9 44	23 6.6	22	11	27 30	23 7.7
22	9	10 44	23 11.7*	22	12½	28 32	22 58.4
22	10½	11 3	23 14.4*	22	11½	28 46	22 56.6
22	10½	11 9	23 9.3	22	11	29 58	23 6.2
22	11	11 18	23 4.6	22	9	30 2	22 50.5*
22	11	12 39	23 0.2	22	10½	31 26	23 5.7
22	11	13 11	23 1.2†	22	11½	31 42	23 3.7†
22	11	13 38	23 0.4†	22	11½	32 29	23 11.8
22	12	20 14 46	-22 56.3	22	9	20 33 24	-23 9.6

\* A. Z.

† (4).



Days. Obs.	Mag.	$\alpha$ .	$\delta$ .	Days. Obs.	Mag.	$\alpha$ .	$\delta$ .
		<sup>h. m. s.</sup>	<sup>°</sup>			<sup>h. m. s.</sup>	<sup>°</sup>
22	II	20 56 14	18 18.1	22	II $\frac{1}{2}$	21 13 33	18 14.3
22	II $\frac{1}{2}$	56 18	18 12.5:	22	12	14 1	18 14.4
22	12	57 56	18 22.1*	22	9	14 12	18 12.9†
22	12 $\frac{1}{2}$	58 11	18 12.8	22	II $\frac{1}{2}$	15 14	18 17.3
22	12	58 19	18 14.1	22	12	15 45	18 23.4
22	10	59 19	18 6.5	22	II $\frac{1}{2}$	17 30	18 16.0
22	12	20 59 51	18 11.5	22	12	17 39	18 27.0
22	II $\frac{1}{2}$	21 0 20	18 15.3	22	II $\frac{1}{2}$	19 3	18 15.9
22	II	0 24	18 12.4	22	10	19 4	18 23.8†
22	10	0 30	18 12.2†	22	10 $\frac{1}{2}$	19 27	18 23.9
22	10 $\frac{1}{2}$	2 11	18 14.9	22	12	20 39	18 25.2
22	II	2 24	18 10.6	22	12	20 53	18 22.1
22	II	3 0	18 20.0†	22	II $\frac{1}{2}$	21 59	18 20.5
22	10 $\frac{1}{2}$	4 24	18 27.0	22	12	22 6	18 16.1
22	II	4 52	18 26.4	22	12	22 24	18 15.0
22	12	5 5	18 24.5	22	12	23 30	18 26.5
22	9	5 34	18 13.4†	22	II $\frac{1}{2}$	23 46	18 21.8
22	9	6 5	18 31.2	22	10	24 36	18 13.3:
22	II	7 45	18 14.1	22	II $\frac{1}{2}$	24 58	18 13.9
22	II $\frac{1}{2}$	8 9	18 20.4†	22	9 $\frac{1}{2}$	25 41	18 14.4†
22	12	8 41	18 22.9	22	II	26 0	18 30.5
22	12	8	18 25.8	22	12	26 38	18 13.6
22	12	10 24	18 20.8	22	12	27 0	18 14.5
22	12	10 26	18 21.9	22	10 $\frac{1}{2}$	28 17	18 22.4
22	10	11 2	18 22.4	22	10	28 17	18 10.4
22	10	11 22	18 15.8	22	10 $\frac{1}{2}$	28 50	18 10.2
22	9 $\frac{1}{2}$	11 50	18 25.3	22	10	29 34	18 11.5
22	II $\frac{1}{2}$	11 56	18 21.3	22	12	30 49	18 25.3
22	12	13 5	18 10.9	22	9	32 15	18 16.4
22	12 $\frac{1}{2}$	21 13 8	18 9.5	22	9	21 32 53	18 13.6

\* N. of double.

† M. C.

‡ (4).

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67	10	<sup>h.</sup> 6	<sup>m.</sup> 9	<sup>s.</sup> 34	+23 3.7	B. Z. 524.
67	9½	31	25		23 2.8	B. Z. 279.
67	9	31	51		22 59.8	omitted in Catalogue.
68	8	6	56	17	22 51.2	B. A. C. 2313.
69	10	7	7	13	22 55.1	B. Z. 279.
69	10	8	30		22 28.8	B. Z. 279.
69	9	7	37	35	22 54.3	B. Z. 279.
76	8	5	36	30	24 1.1	should be +24 21.1.
79	10	6	15	20	24 50.0	Hist. Céleste 12189.
81	10	6	34	0	21 43.9	Rümker 1975.
82	9	7	26	17	21 34.9	B. Z. 279.
83	10	7	45	57	21 13.8	B. Z. 279.
83	9½	8	3	31	21 23.7	B. Z. 278.
84	10	6	33	37	22 37.8	B. Z. 279.
84	9½	6	34	42	22 36.4	B. Z. 334.
85	9	7	57	40	22 29.9	Hist. Céleste 15791.
86	7	10	31	5	8 8.3	Rümker 3276.
87	8	44	35		9 0.5	Rümker 3368.
87	9	10	48	50	8 54.3	Rümker 3411.
131	11	3	51	53	18 53.8	should be +18 54.0.
154	11	8	23	13	+16 19.2	should be +16 49.2.
171	8	14	11	2	-14 32.5	Weisse 190.
172	9	14	55	43	14 30.8	Weisse 1045.
172	8	15	6	48	14 35.6	Weisse 111.
172	10	7	43		14 28.2	omitted in Catalogue.
172	9	15	7	45	-14 28.6	Weisse 128.
210	11	2	45	21	+18 1.2	} have magnitudes been inverted? First is in B. Z. 506.
210	8½	2	45	24	+18 1.5	

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Page 119    Mag. 11½    <sup>h. m.</sup> 22 23.7    should be <sup>h. m.</sup> 23 23.7













